

# A HYPOTHETICAL COMMUNITY

## OOHAM DISTRICT, INDIA

*Constructed by*

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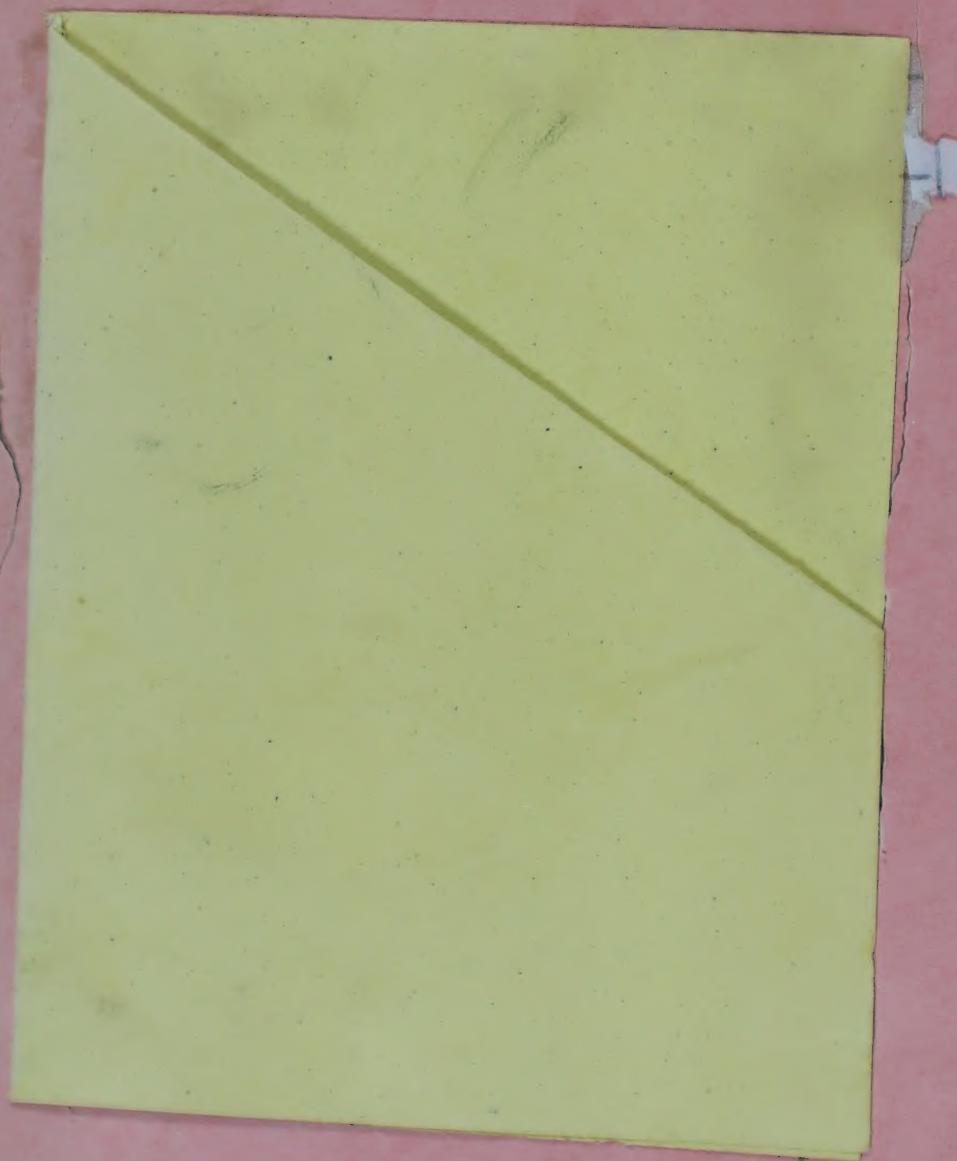
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COMMUNITY HEALTH CENTER

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## P R E F A C E

Ooham District is "hypothetical" because it does not exist. It is very real, however, because it has been created mainly from a single "living" District\*, together with pieces from other actual places. Similarly, Soma Primary Health Centre\* is based on the true situations as it is found in a PHC located somewhere in India. All names have been changed and some liberties have been taken with other geographical data, in order that the District may remain anonymous, and to enable the student to visualize it in almost any part of the country. Falsification ends there, however, and the information presented in the following conforms to the facts as we understand them and to the spirit as we sensed it.

It is intended to present to the student group a true picture of a typical public health service as it exists in India this year, 1965. The information presented in the following pages is the sort that is available to any experienced officer in similar circumstances ; the difficulties and deficiencies—of information, staff, and facilities—are also those under which most public health officials now labor. Data based on special studies and surveys, of the sort that *could have been* within the capacity of the present health staff of the District or PHC, have occasionally been added as Appendices.

This, then, is the District to which you have been posted. The problems to be presented are also "real" in the sense that they are either emergency or routine tasks that have faced other officers in a similar posting, or they are requests for organizational or programme changes in line with the continuous attempt to improve the health services. There is much to be improved in Ooham, and all other Districts, and your solutions, may have much more than a "hypothetical" application.

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\* Sincerest and deepest thanks are due to the District Health Officer and the Medical Officer of the Primary Health Centre, and their staffs, who most kindly and unselfishly gave of their time and effort to provide the information included in this exercise. For obvious reasons they must remain unnamed, but they must know that we are deeply appreciative of their help and collaboration.



## **PART A**

### **OOHAM DISTRICT**

#### **1. GENERAL DESCRIPTION.**

Ooham District, in the state of Nyaya Pradesh (Map 1), comprises 3,086 square miles of generally flat terrain on the west bank of the large Godavari River. It is bounded by Jalpaiguri District on the north, Puri District on the northwest, Calicut District on the southwest, and Madurai District on the south—all within Nyaya Pradesh. The Godavari River separates it from Deoria, Shillong, and Ranchi Districts in the adjoining state of Sochna Pradesh.

The District lies astride one of the principal National Highways, which runs in a roughly north-south direction in this area. A broad-gauge railway line runs parallel to the National Highway. The Godavari River, which also flows approximately from north to south, is spanned at one place by a road bridge which connects the District with Sochna Pradesh by a metalled road joining the National Highway at Laksmigarh.

The District is divided into 4 Tehsils: Laksmigarh—comprising the 3 southernmost Community Development Blocks, Chitra—the 5 westernmost CDB, Ajmer—the 3 northernmost CDB, and Ooham—the remaining 4 central CDB. There are 15 CDB, 11 municipalities, and 2,320 villages in the District.

The total population (1961 census) was 14,89,679, averaging 486 persons per square mile. 83 per cent of the people live in rural areas, and only 17 per cent in urban communities.

The elevation of the District varies from a minimum of 772 feet above sea level to a maximum of 849. The area extending for several miles west of Godavari River is sandy and is subject to severe flooding almost every monsoon. The worst affected area is the eastern parts of Ooham and Gaya Blocks. The water table is near the surface here, and this tract abounds in irrigation wells. To the west, the land rises gradually, the soil type is more compact, and the area is drier, although flooding sometimes occurs in parts of Chitra Tehsil. There are relatively few rivers and streams. The only sizable one is in the northern part of the district, running from near Morabad westward toward Ernakulam. It dries up completely in summer. There are no lakes, but many small permanent tanks are found near the villages. There is, however, an extensive system of irrigation canals and distribution channels that cover the entire district, flowing in general from north-east to south-west.

Rainfalls principally during the period of the south-west monsoon. There is considerable variation in total quantity from year to year, from a minimum of about 10 inches to a maximum of about 40 inches. Monthly rainfall, and average maximum and minimum temperatures for the past few years are shown in Table 1.

Table 1

Monthly rainfall and average maximum and minimum temperatures at Ooham City, 1962-1964.

Month	Total rainfall (inches)			Average temperature (°C)			
	1962	1963	1964	1962		1963	
				Max.	Min.	Max.	Min.
January	1.60	0.77	0.60	22.0	1.0	24.0	2.0
February	0.45	0.65	0.00	26.0	6.0	28.0	6.5
March	0.50	0.40	0.00	35.0	8.5	33.0	10.5
April	0.50	0.15	0.00	40.0	11.4	38.0	16.5
May	0.00	0.37	0.64	46.0	17.0	44.5	18.0
June	0.28	3.46	1.74	44.0	18.0	42.0	25.0
July	4.05	3.69	15.89	42.5	32.0	40.0	22.0
August	9.33	15.10	11.28	42.0	18.5	35.5	21.5
September	15.70	4.69	6.83	36.0	17.0	37.5	19.0
October	0.00	0.00	0.00	32.0	14.5	35.0	15.5
November	0.50	0.30	0.00	29.0	4.5	31.0	9.0
December	1.20	0.10	0.65	26.0	2.5	25.5	3.5
Total	34.11	29.64	37.63	—	—	—	—

## 2. POPULATION

The total District population, as of the 1961 census, was 14,89,679, according to the District Statistical Officer. (The District Medical/Health Office does not maintain a record of the population and its distribution.) The geographic distribution of this population by Tehsil is shown in Table 2 and the residents of the 11 municipalities are given in Table 3. The detailed census returns from the rural areas have not yet been reported from the 1961 census. The last available data for villages and their populations are therefore 14 years old—from the 1951 census. Their distribution by Community Development Block, as of 1951, is given in Table 4. It must be emphasised that the total numbers of persons and villages had increased by 2,99,932 and 903, respectively, as of 1961.

Table 2  
Rural, urban, and total population of Ooham District in 1961, by Tehsil.

Tehsil	Rural	Urban	Total
Ooham	3,49,603	90,520	4,40,123
Chitra	4,50,329	48,802	4,99,131
Ajmer	2,19,786	49,214	2,69,000
Laksmigarh	2,14,657	66,768	2,81,425
Total	12,34,375	2,55,304	14,89,679

Table 3  
Population of municipalities in Ooham District in 1961.

Municipality	Population
Ooham City	71,883
Laksmigarh	66,737
Chitra	34,885
Moradabad	18,968
Ajmer	16,747
Gaya	10,505
Hissar	8,247
Ramachandrapuram	8,032
Wendingar	7,656
Bhopal	6,161
Rampur	5,152
<b>Total</b>	<b>254,973</b>

Table 4  
Area, villages, and population of Community Development Blocks in Ooham District in 1951.\*

Block	Area (sq. mile)	Villages	Population		
			Total	Per sq. mile	Per village
Ooham	152.0	67	65,162	428	973
Ramachandrapuram	247.0	137	75,914	307	554
Singur	182.2	65	80,869	440	1,244
Gaya	252.0	67	72,778	289	1,086
Chitra	237.9	144	67,648	285	469
Ernakulam	325.0	132	40,500	125	307
Wendingar	176.0	56	65,605	373	1,154
Raipur	164.9	42	59,444	360	1,415
Najafgarh	217.0	52	70,003	323	1,346
Ajmer	217.0	140	44,149	203	315
Hissar	244.0	216	6,087	283	319
Moradabad	167.0	123	73,044	425	595
Laksmigarh	200.0	97	57,169	286	589
Chanda	170.5	50	56,456	331	1,129
Jhansi	78.6	29	36,615	465	1,263
<b>Total</b>	<b>3,031.1</b>	<b>1,417</b>	<b>9,34,443</b>	<b>308</b>	<b>659</b>

\* Note that these are 1951 census figures : Block-wise data are not yet available from the 1961 census. In 1961 there were 2,99,932 more persons living in rural areas and 903 more villages.

In 1961, the sex-wise breakdown of the population was : males—8,04,362 (54 per cent) and females—6,85,317 (46 per cent). Each of the 4 Tehsils had about the same sex ratio.

Detailed figures by age for Ooham District are not yet available from the 1961 census. The adjusted distribution by age of the entire population of Nyaya Pradesh in 1961 is available, however, and by applying the percentage distribution of the State to the total population of Ooham District, estimates for the district may be made. The percentages for the entire State and the estimates for the district, for both sexes, are given in Appendix 1.

All of the major religions of India are represented in Ooham District except the Buddhist. Hindus predominate in both urban (89 per cent) and rural (87 per cent) locales. Caste-wise distribution is not yet available from the 1961 census.

For the District as a whole, 22.7 per cent were recorded as literate in 1961. This includes 2,72,998 males and 66,127 females.

There are no precise data about "floating population." Every municipality, however, and many of the larger villages, have groups of transient labourers and their families who drift from place to place both within the District and to and from localities outside, following the availability of work on road and construction projects and in the brickyards. There are also groups of nomads who have no recognized home. There is little official contact or control over these people, and they are believed to number in the thousands.

### 3. POLITICAL AND OFFICIAL STRUCTURE

**Panchayati Raj :** All villages having 200 or more residents who are of voting age (21 years or older) and who have an income of above Rs. 500.00 per year have a Panchayat. The size of the Gram Panchayat is determined by the number of eligible voters : 200 to 999 voters—5 Panchayat members, 1,000 to 1,999 voters—6 members, and so on, to a maximum of 9. The term of office is 3 years. The income of a Gram Panchayat is derived from house tax, the lease of Panchayat-owned land, tax from local shops and other businesses, and fees from mineral extraction, wood-cutting, tank use, etc. The President of the Gram Panchayat is elected as such, separately from the other members. For every 3-4 Gram Panchayats there is a Panchayat Secretary, a paid government employee, to handle administrative matters.

At the CDB level, the Block Samity is composed of 19 members, 16 elected from the Gram Panchayat members in the area, 2 from the Block Cooperative Society, and one from the Block Marketing Committee. Four seats are reserved for Harijans and 2 for women. The Chairman and Vice-chairman are elected from among its members.

At the District level, the Zila Parishad is composed of 3 members nominated from each Block Samity. The Chairman and Vice-chairman are elected from among the nominated members. Five seats are reserved for Harijans and 2 for women. The local Members of the (State) Legislative Assembly and Legislative Council, and the Sub-divisional Officer are ex-officio members.

The Panchayats have a number of functions related to health. In each Gram Panchayat, one or two members are assigned responsibility for health and sanitation. They represent the village in its dealings with the local health staff of the Primary Health Centres. The Gram Panchayat may contribute funds for the construction of sanitary facilities such as latrines, soakage pits, and community wells. They also have certain legal responsibilities with regard to the registration of vital events and the notification of communicable diseases, as will be detailed below. The

Zila Parishad is also concerned with health matters. It employs and supports about 75 persons who work in rural dispensaries, as vaccinators, etc., but who are under the supervision of officials in the District Medical/Health organization.

**General Administration :** The chief administrative officer of the District is the Deputy Commissioner. He is responsible to and is paid by the State Home Ministry, but is appointed by and is on the cadre of the Union Government.

In each of the 4 Tehsils, a Sub-divisional Officer is responsible to the Deputy Commissioner. The Tehsil is only an administrative unit, and the health personnel assigned at this level are under the supervision of the District Health Officer.

**Community Development Organization.**—The entire District has been divided into 15 CDB, as listed in Table 4 and shown in Map 1. These are organized, in general, according to the pattern recommended by the Union Government. Under the overall charge of the Block Development Officer are specialist Extension Officers for Agriculture, Animal Husbandry, Cooperation, Panchayat, Rural Engineering, and Rural Industries. Male and female Social Education Officers are responsible for the development of social clubs and community organization. At the basic working level are village level Workers (VLW) who have direct responsibility for implementing the development plans in about 10 villages each, with population of 6,000-7,000.

The Primary Health Centres fall within the Community Development Scheme, but are administered and supervised directly by the professional medical and health organization at the District level (see Chapter 21).

**Police :** The chief officer is the District Superintendent of Police, who heads a headquarters organization in Ooham City and a field staff under a Deputy in each of the 4 Tehsils. The basic functional unit is the Thana or Police Station of which there are 21 in the District. There is at least one Thana in each CDB, located at Block headquarters. In addition, there are 6 others—at Hissar, Bhopal, Chandigarh, Alipur, Sidisi, and Soma. There is a jail in each of the Tehsil headquarters cities—Ooham City, Laksmigarh, Chitra, and Ajmer ; there are about 200 prisoners, mainly male, on any given day.

The Police organization plays no direct role in health and sanitation administration and enforcement. Police constables may deliver summonses issued by the magistrates, but even this authority is usually delegated to the Sanitary Inspector.

**Courts of Justice.**—Panchayat Courts, elected by the Gram Panchayats, have jurisdiction over minor matters. Failures to register vital events or to notify communicable diseases, which are Panchayat responsibilities, may be actionable in Panchayat Courts. Magistrates are appointed by the Pradesh government, and have jurisdiction over more serious civil and criminal offences. Complaints lodged by Sanitary Inspectors (see Chapter 13) are referred to magistrates courts.

#### 4. AGRICULTURE\*

Agriculture is largely based on the extensive system of irrigation canals, supplemented by tubewell and percolation well irrigation. The area sown to crops in 1959-60 was 13,60,000 acres, and 12,000 acres were in forest.

\* Information provided by District Statistical Officer.

Agriculture has received special attention under the 5-year plans, and there has been striking improvement. During 1950-51, the total cropped area (including double-cropping) was 12,22,000 acres compared with 19,19,000 acres in 1960-61. Table 5 indicates the principal crops, as well as the improvement in production during the 10-year period.

Table 5  
Principal agricultural crops in Ooham District in 1950-51 and 1960-61.

Crop	Production	
	1950-51	1960-61
Rice	30,000 tons	1,50,000 tons
Wheat	78,000 "	2,24,000 "
Maize	5,000 "	39,000 "
Grams	86,000 "	2,28,000 "
Sugarcane	33,000 "	1,36,000 "
Cotton, Desi	10,000 bales	5,000 bales
Cotton, American	500 "	17,000 "

## 5. INDUSTRY\*

During recent years, Ooham District has made progress in the industrial sphere. An Industrial Estate, one of 6 in Nyaya Pradesh, has been established at Laksmigarh. In addition to a large cooperative sugar mill and distillery, many small scale industrial organizations have been set up there. Small industrial units also are operating on Ooham City, Gaya, Chitra, and elsewhere.

The District Industries Office, located in Laksmigarh, provided the information in Table 6, relative to the principal industries in the District.

Table 6  
Principal industries in Ooham District, 1964.

Type of industry	Location	No. of units	No. of workers
Sugar mill	Laksmigarh	1	961
Handlooming	Laksmigarh, Ooham	1,292	3,935
Wool mills	Laksmigarh	9	610
Agricultural implements	Ooham, Gaya, Chitra	289	795

\* Information provided by District Statistical Officer.

Other, less important, widely scattered industrial units include : leather goods (1197 units), soap making (160 units), oilseed crushing (150 units), pottery (523 units), rubber goods (5 units), cycle parts (5 units), sewing machine parts (2 units), conduit pipes (2 units), steel cabinets (3 units), carpet making (2 units), hosiery (1 unit), scientific instruments (1 unit), and miscellaneous handicrafts (136 units). Many large and small brick kilns are scattered throughout the District.

There are a number of industrial training organizations, the most important being a Polytechnic located at Ramachandrapuram. There also exists an Industrial Training Institute and a Government Industrial School at Laksmigarh, and 2 Government Industrial Schools for Girls—one each at Laksmigarh and Ajmer. Centres for training in Khadi manufacture and village industries have been set up in Ramachandrapuram, Hissar and Bhopal. At Block level, local training centres for cottage industries include :

Soapmaking	— Wendingar, Singur
Leather training	— Soma, Sidisi
Shoemaking	— Jorhat
Cotton carpets and bedcovers	— Chanda
Pottery	— Atlantabad
Home crafts	— Sitapelli, Chandigarh

According to the District Industries Officer, no serious industrial health problems exist. In Laksmigarh there is a dispensary operated by the Employees State Insurance Corporation (Government). At other places, accidents and illnesses are handled by Government dispensaries or hospitals, or private practitioners, on a reimbursement basis.

The role of the District Health Officer in industrial hygiene is described in Chapter 19. The trade union movement is still young and weak, and has not displayed any marked interest in health matters.

## 6. ROADS AND TRANSPORTATION\*

There are approximately 96 miles of broad gauge railway in Ooham District, more than half of which forms part of a major link between principal cities located 90 miles north and 80 miles south of Ooham City. There are 26 railway stations within the District.

The total mileage of metalled road in the District is approximately 460, and it provides direct or indirect access to each CDB headquarters (although not to each PHC). In addition, there is 3 to 4 times that mileage of Katcha road which is maintained in generally good condition. Part of the katcha roadway become unuseable during August and September at the height of the monsoon rains, particularly in areas subject to flooding.

According to the records of the Ooham District Deputy Commissioner, the total numbers of the different motor vehicles registered in the District through 1959 were : private cars—161, jeeps—57, trucks—310, buses—157, motor cycles—92, taxis and auto-rickshaws—19, tractors—518. During recent years, 150 to 180 additional vehicles of various kinds are registered each year. Since both Ooham City and Laksmigarh are important bus and trucking centres connecting the District with outside points, road traffic is very heavy. However, by far the most important

\* Information provided by District Statistical Officer.

means of personal transport are bicycles, cycle-rickshaws, and horse-drawn tongas, and the most important vehicles of goods transport are the uncounted bullock carts.

There is no local record of the public bus routes in the District, but the net work is extensive, on both pucca and katcha roads. All towns and most of the larger villages, including all with PHCs and government dispensaries, are accessible by bus—except during the flood season in subject areas.

During 1963-64, there were 68 road accidents, involving 68 motor vehicles, registered by the Police. Fifty-two persons were injured and another 32 killed.

## 7. COMMUNICATIONS\*

There were 118 electrified towns and villages in the District, as of 1961.

The telephone network includes 889 sets, distributed in municipalities as follows : Ooham—300, Laksmigarh—217, Chitra—180, Ajmer-Dharmapuja—57, Jhansi—46, Moradabad—22, Ramachandrapuram—21, Gaya—19, Hissar—15, Rampur—9, Wendingar—2, Bhopal—1. Most of the Thanas have a telephone, as do the Civil Hospitals at Ooham and Laksmigarh and the Civil Dispensary at Ajmer. *There are no telephones at any of the PHCs, any of the dispensaries except that at Ajmer, or at the Civil Hospital, Chitra.*

Telegraph receiving and sending stations are located only at Tehsil headquarters towns : Ooham City, Laksmigarh, Chitra, and Ajmer.

Radio receivers have been supplied by the District Public Relations Officer to 400 Community Centres and other village listening centres in the CDB (supervised by the Panchayats). However, many are not in working order. In addition, there is a large, but unknown, number of privately owned radio receivers. There are no radio transmitters in the District.

## 8. SANITARY FACILITIES

**Water supply.**—There is no water purification system anywhere in the District. Central overhead reservoirs exist, however, in 4 municipalities : Ooham City, Laksmigarh, Chitra, and Ramachandrapuram. Water from tubewells is pumped directly into these reservoirs, and then supplied through pipes both to private houses and to public taps. The number of taps could not be ascertained. The water distribution systems are under the supervision of the Public Works Departments, and no bacteriological controls are in force. Since the public supply is adequate nowhere, many of the private houses supplement it from personally-owned tubewells and dugwells.

All other municipalities and all villages are dependent upon community or private dugwells and handpumps.

**Sewage Disposal.**—No sewerage system exists in the District at the present time ; one is in the planning stage in Ooham City. Therefore, both in the cities and in the villages, latrines are the only method of organized excreta disposal. Public latrines are provided only in 3 slum areas

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\* Information provided by District Statistical Officer.

in Ooham City ; they are maintained very badly by the municipality. Private latrines are common in the urban areas and are most often of the bucket type. Hand removal and disposal in a dumping ground are provided by several municipalities. Few villagers have any access to latrines, and everywhere promiscuous defecation and urination are common.

**Refuse Collection Systems.**—Both in municipalities and in the villages refuse is collected by hand by sweepers under the supervision of Sanitary Inspectors.

## 9. SOCIAL AND CULTURAL ORGANIZATIONS

Both government-financed and privately-supported institutions function in Ooham District to provide social services of one sort or another, including welfare extension projects and social welfare homes. Following is a complete listing :

Red Cross Society	Ooham City
Indian Service Society	"
Society for Service	"
Child Welfare Council	"
Association for Moral and Social Hygiene	"
Hospital Welfare Sections	"
Women's Defence Council	"
Indian Institute of Fine Arts	"
Nyaya Literary Society	"
Institute for Social Upliftment	"
Home for Widows	"
Institute for Blind	Laksmigarh
State Orphanage	Jorhat

The State Home provides care for delinquent children and for persons discharged from reformatories. The State Orphanage houses orphans and also indigent children between 11 and 16 years of age ; facilities are available for education, vocational training, and employment and after-care services.

The District Health Office has no official contact with these organizations, except the Red Cross, and has no additional information about their sizes, activities, or the ranges of their effectiveness ; they are not called upon to assist or collaborate with the official health agencies. The Red Cross is a voluntary agency, but is supported in large part by government grants. Officers of the District Medical/Health Services are ex-officio directors, and, for all practical purposes run the organization. It is most active in the family planning programme, and operates centres in 5 municipalities. These centres are, however, completely integrated into the official programme ; they supplement the work of the PHCs and are under the supervision of the DHO, and thus there is no duplication (see Chapter 19).

## 10. FAIRS AND FESTIVALS

Three fairs are held in Ooham District which attract pilgrims and other visitors in large numbers from within and outside the District.

**Dharmapuja.**—This interstate fair, held at a short distance outside Ajmer, attracts 5-6 lakhs of people from many states of the Union. Pilgrims come by train, bus, and on foot. The scheduling of this festival is based on the occurrence of an astronomical phenomenon which may be forecast far in advance, but which is not a regular, frequent occurrence ; it usually occurs every 2-3 years, and at different seasons. It lasts for one day, but many of the visitors remain for much longer periods of time. Pilgrims customarily offer Puja and take a ritual bath in one of the several temple tanks which vary in size from nearly three-quarters of a mile in length to only 60 ft. x 8 ft.

No special arrangements are made for accommodation of visitors. Pilgrims find shelter in hotels, Dharamsalas, and in the houses of priests. During the fair, large numbers of temporary eating places are set up, under shelter or in open stands. These establishments require prior sanction from the health authorities, but are not supervised during operation. They rarely have facilities for refrigeration or the sanitary storage of food, washing of dishes, etc.

The District health authorities provide a sufficient quantity of drinking water through an extensive system of tubewells and public taps. Over 1,400 temporary borehole and trench latrines are dug, but a large field is also provided for those who will not use latrines for religious reasons. A gang of sweepers is in constant attendance in this field to keep it clean. Refuse is hand-collected and burned.

Cholera vaccination is compulsory and check points are established for immunisation. No records are kept of individual inoculations or of the total number of inoculations. However, during the last fair 146,560 cc. of vaccine were consumed. Since children receive only one-half cc., it is possible that nearly 2 lakhs were inoculated.

This fair is a major undertaking for the DHO, requiring nearly 6 months for preparation, and involves, for a short period of time, almost the entire District health staff as well as large numbers of staff borrowed from other Districts in the State.

**Bhopal.** This is a state fair, attracting 70,000 to one lakh of people, principally from within the District and adjacent Districts. It is celebrated annually in March, and lasts for 2 days.

The fairsite is located within the city. It is customary to bathe in the tank, about 660 yd. x 160 yd. in size.

Pilgrims arrange for their own accommodation ; the authorities provide only a few tents for the staff. Eating places, drinking water supply, and facilities for excreta disposal are similar to those for Dharmapuja. Cholera vaccination is offered on a voluntary basis, and during the last fair 29,500 cc. were consumed.

**Ganga.**—This is also a state fair, attracting 3-4 lakhs of people from throughout the state, but principally from nearby Districts. Its scheduling is based on a lunar event which usually occurs during October or November every 5—10 years. It lasts for 1 day. The fairsite is a village of 1,097 persons (1961), about 6 miles from Wendingar.

Activities, including bathing in a tank 440 yd. x 220 yd., and facilities are very similar to those at Bhopal. Cholera immunisation is voluntary, and 48,380 cc. were used on the last occasion.

**Other Fairs.**—Many smaller, purely local fairs and festivals are held in the District at different times of the year. Proposals for all fairs are passed through the DHO, who is responsible for maintenance of health and sanitation. In practice, however, local fairs are often held without official sanction or supervision.

## 11. EDUCATIONS INSTITUTIONS

The District Health Office maintains no list of schools and colleges in the District and no record of health activities or facilities at those institutions. The District Education Officer provided the details of primary, middle, high, and higher secondary schools given in Table 7 (corrected to July 1964).

Table 7

Primary, middle, high and higher secondary schools in Ooham District, 1964.

Type	Schools		Pupils		Teachers	
	Number		Boys	Girls	Male	Female
	Boy's	Girl's				
Primary	861*		55,313	29,244	1,546	421
Middle	96	18	24,485	7,799	808	305
High/Higher	67	19	40,969	14,443	969	422
Total	1,061			1,72,253		4,471

\* There are boy's, girl's, and co-educational schools.

The pupil : teacher ratio is, therefore, 43, 29, and 40 for primary, middle, and high/Higher secondary schools, respectively.

No precise data are available as to the percentage of children of school age who actually attend school, but it is estimated to be about 70 to 80 per cent in urban areas and less in the villages.

The District Education Office has no information concerning either the sanitary facilities or the teaching of health and science at the individual schools.

The District Statistical Officer provided the data given in Table 8, concerning the colleges in Ooham District. He had no information about medical programs, sanitary facilities, or health or science teaching at the colleges. He also had no information about technical institutes. There is, however, a large agricultural institute at Ooham city and a Polytechnic at Ramachandrapuram.

Table 8

Colleges in Ooham District, 1960-61.

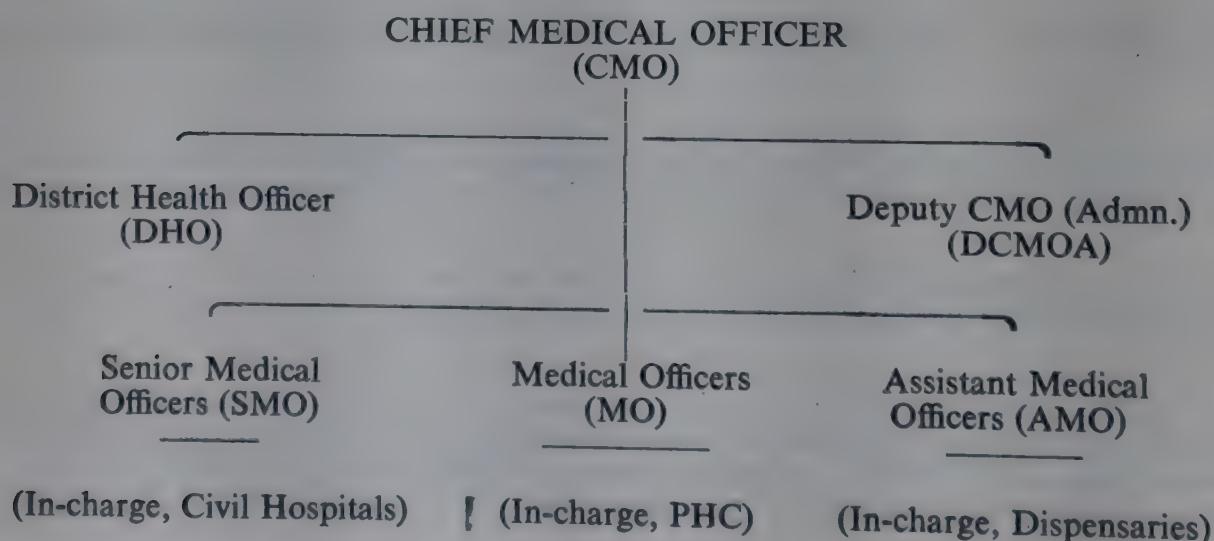
Tehsil	Colleges			Students	
	Type	Number	Male	Female	Total
Ooham	Government	1	718	271	989
	Government-aided	2			
Ajmer	Government	2	155	92	247
	Government-aided Private	2	523	173	696
Chitra		1	218	19	237
Government-aided					
Total	—	9	1,614	555	2,169

A large, modern university is located at Dharmapuja. It was established in 1956 to propagate Sanskrit, Indology and ancient history. Recently its scope has been widened and departments of science, technology, and humanities have been added. Neither the District Medical/Health Office nor the District Education Office has any further information about the number of students or details of curriculum. There is, however, a comprehensive student health programme under the supervision of 2 full-time medical doctors who have a well-equipped dispensary and hospital, including X-ray and laboratory facilities.

There is no medical college in the District. Boys and girls from Ooham who are interested in medical education most frequently attend the medical college in the adjoining Jalpaiguri District, but they are freely admitted to other medical colleges in Nyaya Pradesh.

## 12. ORGANISATION OF DISTRICT MEDICAL/HEALTH SERVICES

The Senior Medical Officer in the District is the Chief Medical Officer (CMO). The organisation immediately subordinate to him is as follows :



**District Health Officer.**—The DHO is in overall charge of the District Health Office. His direct responsibilities include programs for communicable diseases control, vaccination, sanitation, industrial health, family planning, health education and general preventive medicine. The latter includes, by delegation from the CMO, supervision of the preventive medical/sanitation activities of the PHCs (see Chapter 21). It also includes supervision of such activities at the Tehsil level and in municipalities (see Chapter 22). The DHO has the authority (with the approval of the CMO) to shift personnel on temporary assignment from one locality to another if circumstances warrant it. However, this privilege is seldom exercised because of strong local objection and the personal objection of the involved personnel. The organization and activities of the District Health Office are detailed separately in Chapters 18 and 19.

**Deputy Chief Medical Officer (Administration).**—The DCMO (A) is primarily an administrative official, with additional responsibility for all medico-legal matters, including post-mortem examinations.

**Hospitals, Dispensaries, and Primary Health Centres.**—These institutions are the direct responsibility of the CMO. However, he retains personal supervision only over medical (curative) activities, delegating supervision over preventive activities to the DHO (See Chapters 16 and 21).

**Relations between District Medical Health Office and State Directorate.**—The District organisation is under the supervision of the State Directorate of Medical and Health Services. Approximately once monthly some senior administrative and/or technical officer (Family Planning, Smallpox, Health Education, etc.) from the state visits to examine records or programs.

Professional assistance from the State Directorate is very limited, however. There is a State Epidemiologist, but he has no organised unit, and there is no direct or official contact between him and the DHO.

Routine reports from the District to the state pass through the CMO, but when necessary the DHO may contact any state program officer independently.

### 13. HEALTH LEGISLATION

The fundamental act upon which are based specific laws governing activities and requirements affecting the practice of public health is the Epidemic Diseases Act, 1897. This is merely enabling legislation which authorise the state and Central Governments to prescribe requirements and to administer punishments for non-compliance. Copies of the Epidemic Diseases Act, 1897, and of other, specific public health laws are not available in the District Medical/Health Office. A comprehensive public health act, covering all aspects of sanitation and disease prevention, has been prepared and proposed, but has not yet been accepted.

**Reporting of Vital Events and Notification of Disease.**—The responsibility for these activities is detailed in Chapters 14 and 15. The pertinent requirements are laid down in section 43/44 of the Chowkidary Act. In the event of non-reporting and non-notification, the Sanitary Inspector is authorised to give up to 15 days notice, and, upon non-compliance within the time, he may then refer the case to the Local Magistrate who may summon the defaulter to be prosecuted and fined. This procedure is followed in practice only rarely, to demonstrate and dramatize the latent authority.

**Immunisation.**—There is no specific requirement except for primary vaccination against smallpox. Refusal to accept vaccination may be prosecuted under section 278 of the Indian

Penal Code and such cases may be referred to the Local Magistrate by the Sanitary Inspector after giving up to 15 days notice. Action of this sort is rarely taken in practice. Inoculation with cholera vaccine is made compulsory only at the Dharmapuja fair.

**Isolation and Quarantine.**—There are no laws governing these activities, and no action is taken against those who may refuse to comply.

**Sanitation.**—Section 278 of the Indian Penal Code may be applied for any insanitary act or condition which has been determined by the sanitary staff to be injurious or dangerous to health. The Sanitary Inspector must give 15 days notice, and then may refer the case to the Additional Magistrate. Punishment under the Penal Code is rarely applied.

**Disposal of the Dead.**—There is no legislation controlling cremation or burial. No medical certificate is required, and bodies may be disposed of privately.

**Industrial Hygiene.**—The Factories Act of 1948 prescribes sanitary requirements in industry, and requires the approval of the DHO prior to licensure. It is applied, however, only to the larger establishments.

**Food Adulteration.**—The Prevention of Food Adulteration Act, 1954, prescribes standards, methods of investigation, and penalties for violation.

## 14. VITAL STATISTICS

**Registration System in Rural Areas.**—The system of birth and death registration is in a state of transition. The old method of collection of vital statistics is still the most frequent practice in Ooham District.

In the older system, the village chowkidar, who is now an employee of and responsible to the Gram Panchayat, maintains the registers. During his routine visits about the village, and through his personal knowledge of the villagers, he learns about births and deaths. Since the chowkidar is usually illiterate, he asks any literate person, often a school teacher, to make the entry for him. Every fortnight he carries the registers to the local Thana where the Head Constable copies the information into the Thana registers. A consolidated report for all of the villages within the Thana is prepared every fortnight, and is sent to the District CMO. The later, in turn, complies a consolidated report for the entire District and sends a monthly return to the State Directorate. At the end of each year, the Thana registers are sent to the CMO for preservation.

The information recorded by the chowkidar includes the following :

For births—name, parents' name, sex, caste, religion, date and time of birth, name of reporter.

For deaths—name, parents'/husband's name, age, sex, caste, religion, date of death, cause of death,\* duration of illness, medical aid received, name of reporter.

The consolidated reports prepared at the Thana and District levels are summarised for their respective areas as a whole, and do not include a breakdown into smaller geographic units.

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\* Since no medical certificate is required, this is based only on the statement of a relative or friend.

The responsibility for registration lies with the chowkidar. If missed events are detected by others usually the health staff, the chowkidar concerned is liable to prosecution and fine. In practice, however, such action is never taken because the post of village chowkidar is poorly paid and unpopular. In fact, some villages are without chowkidars, and birth and death records are non-existent.

In the chowkidary system of birth and death registration, CDB authorities, including the PHC, are not involved.

In accordance with the provisions of the Panchayat Act, a new system has been introduced into a few areas (and will be extended). Here, the Gram Panchayat is responsible for the registration of vital events. The head of household is required to report each birth, marriage, or death to the Panchayat Secretary or President within 3 days of occurrence. The village chowkidar is also required to report the same events—within 2 days of occurrence. Failure to report is punishable by the Panchayat Court, by a fine upto Rs. 100. In practice such action is rarely taken, and many vital events are detected and reported by the staff of the PHC. The birth and death registers are sent to the CMO at the end of the year, through the Block Development Officer. The MO of the PHC, if he wishes, thus has access to these registers through the BDO.

Because of the prevalent custom that a pregnant woman, at least for the first few deliveries, returns to her father's house for several months before and after the birth of her child, many births are registered in the village of the grandparents rather than in that of the parents. No cross-notification system exists.

No birth certificates are issued to the parents. No certificate is required for disposal of the dead, and no registers are maintained at burning ghats or burial grounds.

The District health staff, including the Trained Dais who deliver over half of the babies in rural areas, do not participate directly in the registration of vital events.

**Registration system in municipalities.**—In Ooham City and Laksmigarh there is an organized Birth and Death Registration Office which functions under the supervision of the Municipal Medical Officers of Health. In other towns, the registers are maintained by the Executive Officer or a local Sanitary Inspector.

The family in which the birth or death took place is responsible for notification, and no medical certificate is required. The municipal authorities send monthly compiled reports to the District CMO and copies to the State Directorate of Health Services.

**Record of Vital Events.**—Vital statistics records are not retained at the District Health Office. It is believed (based on personal impression only) that about 85 per cent of vital events are notified. The infant mortality rate is believed to be about 87/1000 live births, and the maternal mortality rate is about 62/1000 live births (based on reports of Lady Health Visitors).

The District Statistical Officer provided data on births, deaths and cause of deaths for the years 1957-1961 ; he had not yet received those for later years. This information is given in Tables 9 and 10. During 1964, approximately 57,400 births and 14,280 deaths were registered.

Table 9

Births and death registered, Ooham District 1957-1961.

Year	Estimated mid-year population	Birth				Deaths			
		Male	Female	Total	Rate	Male	Female	Total	Rate
1957	11,34,606	30,258	26,708	56,966	50.1	9,126	8,172	17,298	15.2
1958	11,43,148	30,205	26,125	56,330	49.2	10,224	9,682	19,906	17.4
1959	11,51,740	29,653	25,898	55,551	48.2	7,976	7,043	15,019	13.0
1960	N.A.	30,813	26,953	57,766	—	9,304	8,765	18,069	—
1961	14,89,679	29,722	26,271	55,993	37.6	7,686	7,972	14,658	9.8

Table 10

Deaths by cause, Ooham District, 1957-1961.

Year	Number of deaths from indicated cause							
	Small-pox	Cholera	Plague	Fevers	Diarrh. and Dysent.	Respiratory	Others	Total
1957	3	0	0	11,300	153	4,053	1,689	17,298
1958	41	3	0	15,014	214	2,720	1,914	19,906
1959	6	0	0	10,917	130	1,576	2,390	15,019
1960	5	1	0	14,879	128	1,402	1,654	18,069
1961	27	0	0	12,835	305	681	810	14,658

The sex and age specific distributions of deaths were available from the 1964 annual report. They are shown in Table 11.

Table 11

Distribution of deaths by age and sex, Ooham District, 1964.

Age	Males	Females	Total
0—1 month	914	752	1,666
1—5 month	555	510	1,065
6—11 month	397	448	485
1—4 year	1,484	1,566	3,050
5—9 year	386	302	688
10—14 year	237	197	434
15—20 year	169	172	341
20—29 year	300	331	631
30—39 year	249	317	566
40—49 year	327	307	634
50—59 year	509	418	927
60+ year	1,958	1,475	3,433
Total	7,485	6,795	14,280

## 15. DISEASE NOTIFICATION

Following are the legally notifiable diseases in Nyaya Pradesh :

Cholera	Erysipelas
Smallpox	Relapsing Fever
Plague	Influenza
Measles	Puerperal Fever
Chickenpox	Cerebrospinal Fever
Diphtheria	Dysentery
Tuberculosis	Leprosy
Scarlet Fever	Mumps
Typhus	Whooping Cough
Enteric Fever	Sprue

As for the registration of vital events, so also the responsibility for the notification of diseases is in transition. Most Blocks still function under the old system wherein the family of the patient and the village chowkidar are the responsible notifying agents, and are to send reports to both the Block Development Officer and the DHO. Under the new system, in force in only a few localities at present (including the area served by Soma PHC), the President of the Gram Panchayat is responsible, and reports to both the BDO and the appropriate PHC. The latter then reports to the DHO—immediately in the case of smallpox, cholera, typhoid, or any other disease where prompt action and/or assistance is required, or on the Monthly Health Bulletin which gives the total number of cases of each of the notifiable diseases occurring during the month.

There are no special forms for reporting cases of disease ; the information is sent in the form of chits or letters.

Non-notification is actionable under the Epidemic Diseases Act of 1897, but action is rarely taken. In actual practice few cases are notified by the chowkidars or patients' families and the majority originate with the field public health staff. Other helpful agents are the local teachers, Village Level Workers, and the police. Private medical practitioners, allopathic or indigenous, rarely notify. An attempt is made to stimulate reporting by all District field workers at the monthly meetings of the District Coordination Committee which consists of : Deputy Commissi oner (Chairman), Superintendent of Police, Heads of District Departments (including CMO), Su b-divisional Officers, and Block Development Officers.

That notification is very incomplete is recognized by all, but the extent of under-reporting has never been investigated. Diseases other than smallpox and cholera are rarely reported. Records of past years are difficult to obtain locally, but those for 1964 from Ooham District report only : smallpox—35 cases (3 deaths), enteric fever—414 cases (48 deaths), and diphtheria—3 cases (3 deaths). No other specific notifiable diseases were noted.

Only one case of smallpox has been detected so far during 1965. It occurred in Ooham City, the patient was treated by a private practitioner who informed the local Sanitary Inspector, contacts were vaccinated, but the case was not notified until it came to the attention of another SI in a distant village after the patient had moved during convalescence. Cholera outbreaks have occurred only rarely during recent years, but the many sporadic cases of "gastroenteritis" are not investigated and their etiology is unknown.

Even when notification is made, there is a considerable delay following onset. An examination of several investigation sheets for smallpox showed the following intervals between onset and report (in days) : 3, 11, 5, 60, 36, 16, and 58.

Cross-notification to adjoining Districts is not regularly practiced. In the event of serious outbreaks of cholera and smallpox, nearby District CMOs are usually informed.

## 16. HOSPITALS AND DISPENSARIES

**Civil Hospitals and Dispensaries.**—There are no general hospitals in Ooham District other than the 3 government-financed Civil Hospitals at Ooham City, Laksmigarh and Chitra. The 5 urban Civil Dispensaries (numbered 1 through 5 on Map 1), financially supported by the Zila Parishad but under the direct supervision of the CMO, function, in effect, as small hospitals. The size of these institutions, expressed as number of beds and the number of admissions during 1964, are shown in Table 12.

The numbers of physicians posted at the Civil Hospitals are : Ooham City—8, Laksmigarh—3, Chitra—3. Each of the Civil Dispensaries is normally staffed by a doctor, but those posts at Wendingar and Moradabad are vacant at present. Since all of these physicians are under the administrative control of the CMO, they can, in theory, be shifted temporarily in the event of medical need. Such temporary posting, except for study purposes, is rarely made, however.

Table 12

Number of beds and number of admissions during 1964 Civil Hospitals and Civil Dispensaries, Ooham District.

Name of institution	Number of beds			Number of admissions		
	Male	Female	Total	Male	Female	Total
Civil Hosp., Ooham City	62	40	102	3,717	2,816	6,533
Civil Hosp., Laksmigarh	21	7	28	973	817	1,790
Civil Hosp., Chitra	18	25	43	478	575	1,053
Civil Disp., Ajmer	8	4	12	100	45	145
Civil Disp., Wendingar	8	4	12	83	79	162
Civil Disp., Hissar	6	4	10	55	25	80
Civil Disp., Moradabad	12	4	16	141	243	384
Civil Disp., Bhopal	4	2	6	222	72	294
<b>Total</b>	<b>139</b>	<b>90</b>	<b>229</b>	<b>5,769</b>	<b>4,672</b>	<b>10,441</b>

There are out-patient departments at each of the Civil Hospitals ; at Civil Dispensaries, outdoor services constitute the major activity. The largest OPD is at Ooham City where there are general medical and surgical clinics, as well as specialized ENT, gynaecology, and dental clinics (the latter staffed by a qualified dentist).

Since no Infectious Diseases Hospital exists in the District, special wards are improvised for patients with communicable diseases when and as necessary.

There are no special maternity or pediatric hospitals, and special wards for these purposes are found in each Civil Hospital. At Civil Dispensaries, a Trained Dai or Nurse Dai is attached for MCH activities. A Lady Doctor is posted at the Moradabad dispensary, but at present she is on leave for higher studies. Only at Ooham City is there a pediatric specialist.

The only X-ray facilities in the District are located in the 3 Civil Hospitals. Clinical laboratories are present in the 3 Civil Hospitals and in the dispensaries at Ajmer, Bhopal, and Moradabad. The only microbiology laboratory, under a trained bacteriologist, is that at Ooham City. This is described in Chapter 17.

Only the Civil Hospitals at Ooham City and Chitra have a regular Red Cross ambulance each. These are used for transporting patients from PHCs and rural dispensaries to the larger hospitals for major care.

Official hospital records in Ooham District give only total head counts for the different diseases diagnosed in the Civil Hospitals and Dispensaries, and thus do not provide epidemiologically useful information. Appendix 2 presents some special analyses of typhoid fever, diphtheria, and tetanus from a hospital in an area similar to Ooham.

**Tuberculosis Hospital.**—A unit of the Civil Hospital at Ooham city has been organized by the District Tuberculosis Association as a hospital (with 28 beds) and out-patient clinic for tuberculosis. It is supported jointly by Pradesh government, the Red Cross, the municipalities, public subscription, and by nominal fees for medical and laboratory examinations and admissions. It is staffed by a Medical Officer, a Dispenser, and a Lady Health Visitor, as well as ward personnel, and is under the direct supervision of the CMO.

During 1964, 5,687 in-patients were treated, of which 224 were new cases. There also were 9,300 out-patients treated, of which 854 were new. Among the latter, 567 were pulmonary tuberculosis, 49 were non-pulmonary tuberculosis, and 238 were non-tubercular.

A domiciliary service was started in 1964, and 143 home visits were made by the LHV during the last 4 months of the year. This service is very popular. In addition to patient treatments, BCG is given to the contacts after tuberculin testing. A subclinic has also been started in the city ; the LHV visits this daily to give medication and inoculations to those able to attend.

**Dispensaries.**—In rural areas, the Zila Parishad finances 12 Ayurvedic dispensaries and the Pradesh government 20 Ayurvedic and 9 allopathic dispensaries. Their Block-wise distribution is given in Table 13, and their location in Map 1. All dispensaries, regardless of the mechanism of financial support, are directly supervised by the CMO.

These dispensaries, in addition to their principal, out-patient functions for medical relief, have 4 beds each. They do not have transport. They do not have responsibilities for preventive medicine, sanitation, or midwifery.

The allopathic dispensaries are normally staffed by doctors, but at the present time numbers 7, 13, 32 and 41 are without physicians and dispensers carry out the work. All Ayurvedic dispensaries are attended to by indigenous Vaidas.

A large dispensary at Laksmigarh is operated by the Employees' State Insurance Corporation, but supervised by the CMO. It is staffed by 2 Medical Officers, a Dispenser, and an ANM. It has outdoor services only, and provides care for its industrial beneficiaries.

Table 13  
Rural Allopathic and Ayurvedic Dispensaries in Ooham District.

Block	Allopathic Dispensaries	Ayurvedic dispensaries	
		Government	Zila Parishad
Ooham	1 (6)*	0	0
Ramachandrapuram	1 (7)	1 (8)	0
Singur	0	1 (9)	0
Gaya	0	2 (10, 11)	1 (12)
Chitra	1 (13)	0	1 (14)
Ernakulam	1 (15)	3 (16, 17, 18)	2 (19, 20)
Wendinagar	1 (21)	3 (22, 23, 24)	2 (25, 26)
Raipur	0	1 (27)	1 (28)
Najafgarh	0	1 (29)	1 (30)
Ajmer	2 (31, 32)	1 (33)	1 (34)
Hissar	0	2 (35, 36)	2 (37, 38)
Moradabad	1 (39)	0	0
Laksmigarh	0	1 (40)	0
Chanda	1 (41)	3 (42, 43, 44)	1 (45)
Jhansi	0	1 (46)	0
Total	9	20	12

\* Figures in ( ) indicate the enumeration in Map 1.

## 17. LABORATORIES

**Civil Hospital, Ooham City.**—There is no special Public Health Laboratory in the District. The laboratory of the Civil Hospital, Ooham City has been expanded, however, and performs some of the functions of such a laboratory. Actually it is one of 3 Divisional laboratories in Nyaya Pradesh, and serves 5 Districts, including Ooham.

The sanctioned staff includes a competent, experienced Senior Medical Officer (Bacteriologist), a Senior Surgeon and an Assistant Surgeon (posts vacant at present), and 10 technicians.

The major part of the work performed at this laboratory consists of routine clinical tests—blood cell counts, hemoglobin determinations, urine and stool examinations, blood urea and sugar determinations, etc. A summary of the serological and bacteriological examinations performed in 1962 and 1963 is presented in Table 14. Isolation and identification to bacterial group is possible for such organisms as streptococci, staphylococci, salmonellae, shigellae, diphtheria, cholera, etc., but final type classification is not possible except for brucellae which are the special interest of this laboratory. However, the Officer-in-Charge has working relations with other

laboratories where he can obtain streptococcal typing, typhoid phage typing, etc. There is no virology laboratory.

Some results of interest during 1963 are the following. Of faecal sample examined for parasites, 21 per cent were positive for hookworm ova, only 0.3 per cent for roundworm ova, 2 per cent for *Entamoeba histolytica*, 4 per cent for *H. nana*, and 11 per cent for *Giardia lamblia*. Of 621 sera from patients with pyrexia of unknown origin, 113 (18%) were positive for typhoid, and only 12 and 7 for paratyphoid A and B, respectively. Of the Weil-Felix tests performed, 12 were positive for murine typhus, 2 for tick typhus, and 3 for scrub typhus. Six per cent of Kahn tests were positive in 1963. Typhoid bacilli were isolated from 17 blood samples.

This laboratory has a research interest in brucellosis. Agglutination tests for *Brucella* are performed on all patients with undiagnosed fevers, all cases of "enteric fever", "hepatitis", and orchitis, and all patients with chronic arthritic complaints. Positive reactions have been found, and *B. melitensis* has been isolated subsequently. *B. abortus* infection in man has never been demonstrated. A continuing survey of sheep and goats has been carried out in the villages by serological testing followed by isolation attempts. Thus far, infected herds in 18 villages have been found from among about 1,000 investigated.

The laboratory conducts a one-year training program for technicians. The graduates will be posted in PHC laboratories, and will be qualified to do simple blood and urine examinations, simple biochemistry, and examinations of faeces for ova and parasites.

The only strictly "public health" work performed at the laboratory is the examination of water samples in the presumptive test for *Escherichia coli*. This is done only as a service for newly established factories which required certification for wholesome water supply. The number of samples so tested were : 1962-280, 1963-146, 1964-103. Results of the tests are not available. No samples from public water supplies have been submitted.

Table 14

Serological and bacteriological examinations performed at Divisional Laboratory,  
Ooham City 1962-63.

Type of examination or test	Number of examinations/tests in :	
	1962	1963
<b>Serological :</b>		
Kahn test	721	475
Widal/Weil-Felix tests	756	621
Brucella agglutination	1,111	797
Other agglutinations	396	376
<b>Bacteriological :</b>		
Water	280	146
Blood	13	96
Urine	8	22
Pus	13	13
Stool	6	2
Throat Swab	10	23
Rat Carcass	0	1

**Other Hospital and Dispensary Laboratories.**—Simple clinical laboratory tests, such as blood cell counts and urine and stool examinations are carried out at the Civil Hospitals in Laksmigarh and Chitra by technicians only. The clinical laboratories in the Civil Dispensaries at Ajmer, Bhopal, Moradabad are not functioning since they do not have technicians. No other dispensaries have laboratories (or microscopes).

**Primary Health Centres.**—Only one PHC, that at Soma, has a laboratory technician ; only 7 PHCs have a microscope (see Table 15).

**Laboratory at District Health Office.**—This is, at present, engaged only in blood smear examinations for malaria. It is planned to send the 6 microscopists for training in general laboratory technique for eventual assignment to PHCs.

## 18. DISTRICT HEALTH OFFICE : ORGANIZATION

The chart on page 29 shows the organizational set up of the staff under the direct authority of the DHO. In addition, he has responsibility for the work of the sanitary staffs in the municipalities (see Chapter 22) and for family planning clinics supported by the Red Cross (see Chapter 19). The staffs at the Primary Health Centres are discussed separately in Chapter 21. This chart does not indicate the large number of untrained staff employed at various levels in a variety of menial tasks—sweepers, peons, chowkidars, etc.

The office of the DHO is located in Ooham City, and is very small, crowded and uncomfortable. Added to the large number of people at work in a very limited space is the continued coming and going of visitors from among the public, officials, and field health personnel. The result is congestion and confusion that makes work of any sort very difficult. Quiet, constructive thought is all but impossible.

**Administration.**—The DHO is, of course, the chief administrative officer. His time is completely utilized in all the petty details of running his vast organization, leaving no time for deliberate programme planning, systematic tabulation of activities and achievements, and analysis of results. Further more, the DHO spends 10 to 20 days each month on tour, engaged in personal inspection of field areas.

The DHO is assisted by 2 clerks. They are concerned only with office matters involving supplies, personnel, etc. The administrative work associated with programmes is done by the senior staff in vaccination, sanitation, and family planning.

**Vaccination, Sanitation, and Family Planning.**—The work of these personnel will be discussed under their respective programmes in Chapter 19.

**Communicable Disease Control.**—This organization does not yet exist, but is soon to come into being. At the present time, Ooham District, which has been certified for entry into the maintenance phase of the National Malaria Eradication Programme since January 1965, continues with the consolidation phase organization consisting of a Unit Officer, 6 microscopists, and 165 surveillance workers including supervisors. As such, this entire staff works independently of the DHO, and under the direct control of the state Deputy Director of Health Services (Malaria).

In the near future, however, the malaria operations will become integrated into local health organizations of the District. The Malaria Unit Officer will become the Additional DHO with

Chief Medical Officer	District Health Officer		Family Planning Bureau	
	Sanitation	Communic. Dis. Control	Medical O. (Male)	... (1)
Vaccination	Senior SI	... 1	Medical O. (Female)	... 1
	Leave reserve SI	... 1	Education O. (Male)	... 1
	Food Inspector	... 1	Education O. (Female)	... 1
	Tehsil-level SI	... 3	Sanitary Inspector	... 1
	Assistants	... 16	Asst. SI	... 1
			Public Health Nurse	... 1
			Surgical Nurse	... 1
			Aux. Nurse Midwife	... 1
			Trained Dai	... 1
			Attendant	... 1
			Projectionist	... 1
			Driver	... 1
			Clerk	... 1
Primary Health Centres (16)		Rural F.P. Clinics (10)		
Superintendent	... 1	MO (Female)	... (1)	
Asst. Unit O.	... 1	Education O.	... (1)	
Inspectors	... 4	Computer	... (1)	
Vaccinators	... 43	Clerk	... (1)	
		Sanitary Inspector	... (2)	
		Aux. Nurse Mid.	... (4)	
		Trained Dai	... 4	

\* Numbers in ( ) indicate sanctioned but vacant position.

the title of Epidemiologist. How he will function in that capacity is uncertain, since this is an entirely new post in the nation and there is no past experience. Malaria will surely remain his primary interest for some time to come, but gradually he should take increasing responsibility for communicable disease control activities in general. An early beginning in that direction will be his supervision of the increased health intelligence functions of the former surveillance staff.

The chief assistant to the District Epidemiologist will be the Health Supervisor—the present post of Assistant Unit Officer. There will continue to be a staff of 4 microscopists.

The present malaria surveillance workers will become Basic Health Workers (BHW), of which there will be 135. The BHW will be assigned to the PHCs, 6 to 8 per centre, and will be responsible for 10,000 population each. In addition to once monthly visits to each household within his jurisdiction for malaria surveillance, the BHW will note cases of suspected smallpox, cholera, and plague, and will post coloured notification cards (red, green, and white, respectively) to the DHO when they are found. He will also note new births and deaths, and bring them to the attention of the registering authorities.

The BHW will work under the supervision of a Health Inspector (HI). This is a new staff title, created from the present malaria Surveillance Inspectors and Sanitary Inspectors, whom they will replace.

In addition to the BHWs, the group of ANMs at each PHC will be increased so that there will be one per 10,000 population. They will be very active in the family planning work in addition to their current activities. It is hoped that the BHWs and ANMs will function as a 2 person (male-female) team.

As the first tier of supervisory personnel, a new category, to be called Family Planning Field Workers (FPFW) or Health Assistants (HA), will be appointed and posted at the PHCs.

**Stores.**—The District Health Office has a stores section for supplies of materials used in preventive medicine and sanitation.

A refrigerator is available in the office of the DHO for keep a District supply of vaccines, but is out of order at present. Vaccines are being kept in refrigerators in the laboratory of the Ooham City Civil Hospital. It is intended to keep a supply of about 4,000 doses of cholera vaccine, 1,000 doses of typhoid vaccine, and 2,000 doses of smallpox vaccine. Supplies are indented from the State Vaccine Institute when stocks get low, in advance of needs during the flood season, and in unusual emergencies. Indents are usually filled in 3 to 7 days. Neither tetanus toxoid nor DPT is kept routinely ; the former is readily available in the small quantities demanded, but the latter is in short supply and is reserved for special cases. District stores also supply rabies vaccine on indent from the 4 centres where it is kept (see Chapter 19).

In addition to the supplies of vaccines kept at District head-quarters, quantities are also kept at those PHCs which have refrigerators. No record of these amounts is available with the DHO.

District stores also supply such things as bleaching powder and DDT. Eighteen units of 25 kgm. each and 16 units of 50 kgm. each, respectively, were in stock on an average day.

## 19. DISTRICT HEALTH OFFICE : PROGRAMMES

Most of the programmes of the District Health Office are implemented through the PHCs, and the activities of the latter are exemplified by Soma PHC in Part B. The following will give some indication of the over all strategic objective of the District and the guidelines laid down for the PHCs, as well as the information available concerning District-wise programmes.

**Immunisation.**—The special attack-phase organization of the National Smallpox Eradication Programme has been completed in Ooham District. This program began in 1961-62 with the enumeration of the entire population by family units in specially designed registers. By the early part of 1963 the attack phase had been completed, with the vaccination of approximately 80 per cent of the people in the District. This figure includes urban and rural combined, and primary and revaccinations combined. The registers have been deposited with the District vaccinators in the field, and no detailed break-downs—by area, by urban-rural difference, by primary-revaccination status, by age or sex—are available with the DHO.

The routine maintenance of smallpox immunisation is now the general responsibility of the DHO. He considers the vaccination program too important to entrust generally to the PHCs. In some instances, where he believes the MO of the PHC is sufficiently interested, the SI has been given responsibility for a definite population in the immediate environs of the PHC—usually about 10,000. All of the remainder of the District has been divided into 43 sectors, one for each vaccinator (19 employed by the State, and 24 by the Zila Parishad). The latter is fully responsible for his sector, and directly answerable to the DHO, who is assisted in this programme by the Vaccination Superintendent.

Each smallpox vaccinator has a permanent "headquarter" which consists of the place he lives, keeps the registers (now becoming tattered and worn), and where he keeps his supply of freeze-dried vaccine without refrigeration. He is resupplied at the time of the visit of the DHO or the Superintendent, up to a maximum of 200 "insertions". After reconstitution, each ampule of 20 doses is to be used for no longer than 24 hours.

Reports of vaccinations performed are received at regular weekly intervals, and weekly, fortnightly, monthly, and quarterly consolidated reports are prepared by the District Health Office for forwarding to the State Directorate. During 1964, a total of 46,317 primary vaccinations and 22,065 revaccinations were performed in the District. Breakdowns by vaccination sectors or PHCs are not available.

Ooham District has been included in the BCG programme of the National Tuberculosis Control Programme for the past year. This work is done by a special team (consisting of a Chief Technician, a Technician, and a driver) supervised by the Centre, and stationed in Chitra. Activities are village-wise with registration and tuberculin-testing of every individual ; negative reactors are later given BCG. It is understood that a family card system has recently been started by this team. The District Health Office has no detailed information on the progress and accomplishments of this team although it is supposed to send routine reports to the CMO and the work of the team is inspected by the CMO and the DHO during their routine visits.

Other than the smallpox and tuberculosis programmes, there is no routine immunisation in Ooham District. Cholera and typhoid vaccines are stocked at many of the PHCs, but are used principally during the flood season and during typhoid epidemics. A special, compulsory immunisation programme is held at the time of the Dhamapuja Fair (see Chapter 10) and voluntary programmes at the other fairs. The utilisation of tetanus vaccine is left to the individual MOs of the PHCs. There is almost no request for diphtheria or combined vaccines and there are no stocks kept. Rabies vaccine is kept available at 4 centres in the District—Ooham City, Chitra,

Laksmigarh, and Ajmer. There is no record kept of the quantities available in the field, nor of the number of inoculations which have been given during the past month or year.

**General Sanitation.**—This programme is essentially in the hands of local officers in the municipalities and at the PHCs, under the overall supervision of the DHO. At District headquarters there is only one Senior Sanitary Inspector for direct assistance to the DHO, in addition to an SI as leave reserve. The small sanitary staff at the Tehsil headquarters (see Chapter 22) is also directly under the DHO. The activities at a typical PHC are detailed in Part B.

In general, the sanitation programme which is being promoted from District headquarters consists of the following principal elements :

- (1) Introduction of water-seal latrines in rural areas under the 5-year Plan Scheme. Government spends Rs. 50 on each seat, and other expenditures, including the digging of the pit, are borne by the Community. Eighty latrines were constructed in villages, particularly in schools, during 1962. The programme was not popular, however, and has been discontinued.
- (2) Composting of garbage and refuse.
- (3) General village cleanliness.
- (4) Destruction of stray dogs, and antirat and antifly measures.
- (5) Disinfection of wells with bleaching powder.
- (6) Construction of tubewells and soakage pits in collaboration with Block Development Officer.

**Communicable Disease Control.**—The entire District has been certified for entry into the maintenance phase of the National Malaria Eradication Programme since January, 1965. This has not yet been implemented (see Chapter 18), and the NMEP Unit continues to function independently, following the consolidation phase pattern of active and activated passive surveillance. There is no completely voluntary passive surveillance. The record of the work of the Unit and of the occurrence of cases of malaria is not available with the DHO. However, all of the few cases reported within the past year have been imported.

There are no programs for venereal diseases, yaws, trachoma, filariasis, guinea worm, or leprosy. Surveys for these diseases have not been conducted and their incidence and prevalence are not known.

The DHO becomes immediately involved whenever there is an outbreak of smallpox, cholera, or typhoid fever, or unusual epidemics of other communicable diseases. He may visit the locality concerned himself if he feels it necessary, but usually directs activities of the local MO or vaccinator by telegram or express letter. The Superintendent of Vaccination of the District office usually visits the locality to undertake investigations and to direct the immunization program. Copies of the smallpox case investigation and cholera outbreak program are attached as Appendix 3a and 3b.

**Food Adulteration.**—One Food Inspector is posted at District headquarters, and the MO and SI at each PHC act in the same capacity locally. If a food item in the market is suspected of adulteration, 3 samples are taken—one is sent to the Food Laboratory at the State Capital, one is sent to be kept by the DHO, and one is kept sealed, by the merchant. In the event of a positive laboratory report, punishment may consist of confiscation/fine/imprisonment on charges brought by the DHO.

**Industrial Hygiene.**—The DHO is required to inspect each factory in the District before it may start operations. The items of inspection covered are : general cleanliness, drainage, drinking water supply, ventilation, lighting, latrines, urinals, first aid equipment, and spittoons.

Unsatisfactory conditions must be improved before a licence is issued. The report is sent to the Chief Inspector of Factories and the Director of Health Services at the State Capital. Factories are supposed to be inspected at periodic intervals thereafter, but in practice they are not visited after they start operations. No records are kept at the District Health Office.

**Health Education.**—There is no organized program and no special officer or staff for this purpose, except in the Family Planning Programme. The latter may, however, be called upon to assist in any health propaganda activity in connection with an epidemic, etc.

**School Health.**—There is no special District-wise plan for school health activities, and no District-wise record of facilities, problems, activities, or accomplishments. The Lady Health Visitors at the PHCs refer children with physical defects to their own PHC clinics or to the School Health Service at Ooham City for care. See Chapter 28, Part B.

The School Health Service at District headquarters consists of a medical and dental clinic, each staffed by a lady officer aided by a nurse and a dispenser (3 sanctioned). An ENT specialist is available part-time. These clinics are said to give very good service to one or two schools in the immediate vicinity, reasonable service (annual physical examinations) to all the schools in Ooham City, and almost no service to the remainder of the District. All children examined are entered into registers. Since individual record cards are not used, there is no continuous record, no follow-up, and no callback. Of 18,312 children to be covered in Ooham City, 2,012 were examined during the first 5 months of 1965. Of these, defects were found in 1,700. The most common defects are stated to be : malnutrition, anemia, trachoma, tonsillitis, upper respiratory infection, ear wax, dental caries, gingivitis, excess tartar. Immunisations are not performed.

**Maternal and Child Health.**—This programme is conducted entirely by the staff posted at the PHCs. See Chapter 32, Part B. Routine services consist of antenatal and postnatal care of mother and baby, as well as obstetric delivery. Both treatment and education for prevention of illness are stressed. The free distribution of powdered milk is also a responsibility of the MCH clinics ; the UNICEF supplies sufficient powdered milk for the distribution of  $1\frac{1}{2}$  ounces per day to each of 110 beneficiaries at each of the 16 PHCs.

There is no District-wise record at the District Health Office of the quantity of the various MCH services provided nor of the volume or area-wise of use milk powder.

**Family Planning.**—This programme consists of the wide-spread promotion of the concept of family size limitation through education and propaganda, the distribution of various contraceptive devices (the plastic-loop, Intra-Uterine Device, has just been introduced on an experimental basis), and the performance of vasectomy operations. Contraceptives are distributed through depots run by the Rural Family Planning Clinics and established in the larger villages. The volunteer depotholders are respected members of the communities such as teachers, Village Level Workers, Cooperative Society Members, Panchayat members, etc. Vasectomy operations are performed in "camps"—temporary field operation stations at the PHCs and in the larger villages. The State Directorate had fixed a target of two operations per 100 couples during the year ending 31st March, 1965—amounting to 2,980 operations in Ooham District. 80 per cent of the target was achieved in this District. During the fiscal year 1965-66 the target has been set at 6,000 operations.

The District Family Planning Bureau functions at District headquarters, runs the vasectomy camps, and coordinates and supports the activities in the field. These consist of 3 organised F.P. clinics—at Burdwan, Raipur, and Soma PHCs, and 10 F.P. Units—at all other PHCs except Jorhat,

Sidisi, and Chandigarh. Of the various staff sanctioned for the F.P. Units, only Trained Dais are in position, working directly under the MO. In addition, the Red Cross supports 5 MCH centres (principally for FP work)—at Ooham City, Chitra, Ajmer, Hissar, and Laksmigarh—which are under the responsibility of the DHO and his Family Planning Bureau.

Since no detailed analyses of birth rates have been made in limited localities, there are no indices available to assess the results of the Family Planning programme.

**In-service Training.**—Training of Dais, both government-employed and private, is active and continuous at the PHCs, and is the responsibility of the Lady Health Visitors. A course of one and one half year's duration is provided at the Civil Hospital, Ooham City for the more highly trained Auxiliary Nurse Midwives.

There is no locally-organised training for Sanitary Inspectors or other personnel. Six-week training programmes for PHC Medical Officers, Sanitary Inspectors, and Lady Health Visitors are available at one of the 3 regional Research-cum-Training Centers established by the Union Government. Nearly 50 per cent of the PHC, MOs of this District have received this training, and also a number of SIs and LHV.

## 20. DISTRICT HEALTH OFFICE : REPORTS AND RECORDS

Following is a list of all reports sent routinely by the DHO (through the CMO) to the State Directorate of Medical and Health Services :

### A. Weekly

1. Weekly Returns of Smallpox, Plague, and Cholera
2. Weekly Birth and Death Returns of Towns Having a Population above 30,000
3. Progress Report of National Smallpox Eradication Programme (NSEP)

### B. Fortnightly

1. Progress Report of NSEP.

### C. Monthly

1. Consolidated Monthly Statement Showing the Work Done Under the Prevention of Food Adulteration Act, 1954
2. Monthly Statement Showing Samples Seized by Chief Medical Officers/District Health Officers/Municipal Medical Officers of Health/Food Inspectors under their Supervision
3. Statement showing Progressive Statistics of Inoculation and Vaccination
4. Monthly Goshwaras of Births and Deaths from all Municipalities and Police Stations for Central Mechanical Compilation
5. Monthly Statement Regarding Inoculation and Vaccination
6. Monthly Birth Returns
7. Monthly Death Returns
8. Monthly Vaccination Statement
9. Progress Report of Health Activities
10. Progress Report of NSEP

**D. Quarterly**

1. School Health Clinics
2. Report of Maternity and Child Welfare
3. Progress Report of Health Activities
4. International Assistance for NSEP, Release of Funds from
5. Progress Report of NSEP.

**E. Semi-annually**

1. Half Yearly Review of the Prosecutions Launched under the Prevention of Food Adulteration Act, 1954.

**F. Annually**

1. Annual Report on Fairs
2. Report of Work Done on Maternity and Child Welfare
3. Annual Summary of Notifiable Diseases
4. Number of Unregistered Births and Deaths that were Discovered During the Calendar Year.

These reports are available in printed or cyclostyled form and are supplied by the State Directorate. Note that smallpox, cholera, and plague are reported only as a total count ; no breakdown by age, sex, or residence is submitted.

No annual summaries are prepared by the DHO except those required and listed above. The State Directorate prepares an annual summary of morbidity and mortality data and of health and sanitation activities, and a copy is supposed to be sent to each District CMO. However, no such annual reports are available in the Ooham District Medical/Health Office.

The office of the DHO does not make analyses of trends in or the occurrence of disease incidence and prevalence, total deaths or cause of death, birth rates, immunisations performed, sanitation work, maternal and child health services, or family planning activities either for Ooham District as a whole or for its subdivisions. Spot maps and graphs are not available in the files nor displayed on the walls.

## **21. PRIMARY HEALTH CENTER NETWORK**

There are 16 PHCs in the District, one in each Block, except Ooham and Ernakulam where there are 2 each and Ajmer where there is none. The location of the PHCs, and their sub-centers (insofar as the location of the latter is known to the District Health Office), is shown in Map 1. Some details of the staffing, subcenters, and some facilities of the PHCs are given in Table 15.

Primary Health Centers are under the direct supervision of the CMO, but he delegates responsibility to the DHO for preventive medical and sanitation matters. If disciplinary or other action is required, the DHO must request it by report to the CMO. Each PHC is visited at least once a month by either the CMO or the DHO for administrative supervision. The MO of the PHCs meet together once monthly at District headquarters to discuss administrative matters. In the evening of the same day there is a clinical meeting of the District Licensed Medical Practitioner's Association. There is no provision for routing professional visits by medical consultants to the PHCs ; special call for consultation is theoretically possible but is rarely made.

Table 15.

Location and some details of staff and facilities at Primary Health Centres in Ooham District.

CD Block	PHC	Sub-centers	Staff sanctioned*						Staff in position						No. Micro- beds	Micro- scope?	Refrig- erator?†
			MO	SI	LHV	Disp	Mid	MO	SI	LHV	Disp	Mid	MO	SI			
Ooham		Jorhat	4	2	2	2	4	1	2	3	1	4	18	No	Yes		
Ooham		Soma	3	2	1	2	4	1	1	2	4	4	6	Yes	Yes		
Ramachandrapuram		Ramachandrapuram	8	3	1	1	2	4	2	1	1	2	4	30	Yes	Yes	
Singur		Singur	3	2	1	1	4	1	1	1	1	4	4	No	Yes		
Gaya		Alipur	4	2	2	3	5	1	2	0	0	4	10	Yes	Yes		
Chitra		Burdwan	3	2	1	1	4	1	1	1	1	4	8	No	Yes		
Ernakulam		Ernakulam	6	1	1	1	4	1	1	1	0	4	4	No	No		
Ernakulam		Chandigarh	3	1	1	1	4	1	1	1	1	4	4	No	No		
Wendinagar		Wendinagar	3	2	1	1	2	5	1	1	1	1	4	No	Yes		
Raipur		Raipur	4	2	2	3	3	4	2	2	1	2	4	8	Yes	Yes	
Najafgarh		Najafgarh	3	2	1	1	4	1	1	1	1	4	10	No	Yes		
Ajmer		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hissar		Rampur	5	1	1	1	4	1	1	1	1	1	4	8	Yes	Yes	
Moradabad		Atlantabad	3	1	1	1	4	1	1	1	1	1	4	4	Yes	Yes	
Laksmigarh		Sitapelli	3	1	1	1	5	1	0	1	1	1	3	6	No	No	
Chanda		Sidisti	3	2	1	1	2	4	0	1	0	1	3	4	No	No	
Jhansi		Jhansi	4	2	2	3	3	5	2	2	1	1	5	12	Yes	Yes	
<b>Total</b>	<b>(15)</b>	<b>16</b>	<b>62</b>	<b>28</b>	<b>20</b>	<b>25</b>	<b>27</b>	<b>68</b>	<b>18</b>	<b>19</b>	<b>16</b>	<b>17</b>	<b>63</b>	<b>140</b>	<b>(7)</b>	<b>(13)</b>	

\* MO = Medical Officer, SI = Sanitary Inspector, LHV = Lady Health Visitor Disp = Dispenser (Pharmacist), Mid = Midwife (including Auxiliary Nurse Midwife and Trained Dai).

† Many refrigerators are not in working order.

The Primary Health Center was designed as the mechanism to bring the benefits of modern medicine as close to the people as possible. Its primary purpose is to promote the development of a healthy environment and to teach the people to lead healthy lives, and only secondarily it is to provide immediate medical relief and to act as a referral center for medical care at the nearest appropriate hospital. It is provided with beds only to permit care for short-term emergencies or to hold patients until transfer to a hospital. The principal functions of a PHC were therefore intended to be : community and home sanitation, health promotion education, maternal and child health services, immunisation, epidemic control, family planning, and to promote and assist such general public health activities as the collection of vital statistics and the notification of communicable diseases.

Although it was intended that each PHC would serve the entire population of a Block, this has proved impossible with the staff, transport, and facilities available. The DHO estimates that adequate service is given to these people living within a radius of  $1\frac{1}{2}$  miles of each PHC.

Within each PHC, the Medical Officer (MO) is in-charge and is responsible for all curative and preventive activities. He is under general instruction to attend to curative medicine ("medical relief") only during the mornings, and to spend his afternoons working on preventive programs at the PHC and, as often as possible, in the villages. In practice, however, he rarely gets to the "field", depending instead, upon his Sanitary Inspector, Lady Health Visitor, and other field staff to keep him informed of problems, programs, and results. Because of the remoteness of MO from field activities, and also because of the usually limited tenure of the MO at a PHC (see below) and the powerful local contacts of the subordinate personnel, discipline is often very lax.

The morale of the medical Officers at the PHCs is very low. They feel isolated and abandoned, and that it makes little difference whether they do a good or a poor job ; they receive little guidance or support from higher eschelons, and they feel that it is only necessary to keep the records in sufficient order to pass the "inspections" of higher officers.

There is no required period of posting of the MO at a PHC, but typically he is shifted after about 3 years. Such transfers are partly to relieve the monotony of an unstimulating assignment, partly to prevent the development of local attachments which might prevent objective and fair treatment of all of the people, and partly because of the fairly rapid turn-over of professional personnel at the MO level. Transfers to undesirable stations are also a frequently used form of punishment.

The more important sub-professional staff of the PHCs are listed by title in Table 15. All of these are posted at the PHC itself, except the midwives who generally work in the subcenters. Without exception, the subcenters in Ooham District are confined in their activities to obstetric work, including prenatal and postpartum care. In addition to those categories listed in Table 15, each PHC has a variable number of other personnel—clerks, sanitary assistants, sweepers, peons, drivers, etc. A formal statement of the duties of each of the more important categories of staff is given in Appendix 4.

Soma PHC is typical of those in Ooham District. It will be described in detail in Part B, and will exemplify the manifold programmes, accomplishments, and problems of the Primary Health Centre network.

## 22. MUNICIPAL HEALTH OFFICES AND TEHSIL-LEVEL WORK

**Municipalities.**—The staff in urban centers who have specific responsibility for health and sanitation work are shown in Table 16. Only Ooham City has a full-time Municipal Medical

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COMMUNITY HEALTH CEN

474. (First Floor) St. Marks Rd

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Officer of Health (MMOH). Laksmigarh and Ajmer have part-time officers who are the MOs of the Civil Hospital and Civil Dispensary, respectively. Where there is an Executive Officer, a full-time administrative officer, he has responsibility for the health and sanitation activities; where there is no EO, the SI is in charge. Where there is no SI (in Wendingar, Bhopal, and Ramapur), the Secretary of the Municipal Committee oversees the work of the sweepers.

Although municipal affairs are autonomous, and the town is the appointing authority for its personnel, the DHO may exercise unofficial authority by recommendations to the Municipal Committee.

Sweeper gangs are employed by all municipalities for general sanitation.

Table 16

Staff responsible for health/sanitation activities in municipalities, Ooham District.\*

Municipality	MMOH	Sanitary Inspector	Vaccinator	Executive Officer
Ooham City	1	2	2	1
Laksmigarh	Part-time	1	1	1
Ajmer	Part-time	1	1	1
Chitra	—	1	1	1
Ramachandrapuram	—	1	1	—
Moradabad	—	1	1	—
Hissar	—		1	—
Gaya	—		1	—

\* The 3 municipalities with no supervisory staff have been omitted.

**Tehsils.**—At each Tehsil headquarters other than Ooham (i.e. at Chitra, Ajmer, and Laksmigarh), one SI and 4 sanitary assistants (3 employed by the State and one by the Zila Parishad) are assigned. They may work anywhere in the Tehsil to supplement the work of the PHCs where there are lacunae, and are available for epidemic emergencies, for control at fairs and festivals, etc. They are directly supervised by the DHO.

Supplementary MCH activities are also provided at Tehsil headquarters by the LHV of the Red Cross MCH Centres previously mentioned in Chapter 19.

**Ajmer C.D. Block.**—This is a special case since it is the only Block without a PHC. The sanitary and other health activities here are directly supervised by the DHO, using Tehsil-level staff, supplemented by assistance from Atlantabad PHC when necessary.

## 23. NON-GOVERNMENT MEDICAL FACILITIES

**Private Hospitals/Nursing Homes.**—A private nursing home, operated by 3 allopathic physicians, is located in Ooham City. The details of its facilities are not known to the official authorities

except that it takes general, obstetric, and pediatric cases. There are no other private hospitals or nursing homes in the District known to the CMO.

**Private Physicians.**—There are 155 registered allopathic medical practitioners in Ooham District. Their exact residences are unknown, but they are believed to practice only in the large towns. However, they are distributed, by Tehsil as follows : Ooham—58, Laksmigarh—26, Ajmer—40, Chitra—31.

The CMO is chairman of the District licensed Medical Practitioner's Association. This organization meets every month in Ooham City for a discussion of clinical problems. Since it is held on the same day as the monthly administrative meeting of the District Medical/Health professional staff, it is attended by 90 per cent or more of the government MOs. Very few of the physicians in private practice attend, however. There are no practical working relations between the private practitioners and the medical/health authorities. For example, private doctors never notify communicable diseases, and never submit blood smears from fever cases for examination for malaria parasites as required for passive surveillance in the maintenance of malaria eradication.

There is no record of the number or location of the many practitioners of Ayurvedic or other indigenous systems of medicine.

There are only 2 qualified dentists in the District, both in Ooham City ; one is posted at the Civil Hospital, the other at the School Health Service Clinic. There are a number of untrained dentists in several urban centres. The MOs of PHCs and government dispensaries practice simple dentistry such as extractions.

## **PART B**

### **SOMA PRIMARY HEALTH CENTRE**

#### **24. GENERAL DESCRIPTION**

Soma Primary Health Centre is located in the north-central part of Ooham Community Development Block, about 7 miles from Ooham City on the all-weather road connecting the latter with Hissar to the north. Ooham City is the District headquarters, and the location of the CDB Office and a Civil Hospital. The southern portion of the block is served by a second PHC, located at Jorhat.

Soma PHC is responsible for the medical relief and preventive services to a population of 30,048 living in 31 villages which cover an area of approximately 75 square miles. Within this area, there are about 8 miles of all-weather metalled road and 28 miles of dry-weather jeepable roadway. The PHC is located somewhat to the west of the geographic centre of its territory of responsibility.

The area served by Soma PHC (hereafter referred to as the Soma Health Area) lies along the Godavari River, and is subject to flooding every year. In "bad" flood years, flood water, often to a depth of 3-5 feet, extends westward to the border of the Block, and many villages are isolated or temporarily abandoned. The road to Ooham City, however, remains passable.

Soma Health Area is almost exclusively agricultural. The cultivated area comprises about 16,500 acres, of which 8,320 are under irrigation, principally by wells. There is very little cottage industry, and only an insignificant income is derived from the sale of manufactured articles to parties outside the Soma area.

The principal features of Soma Health Area are indicated in Map 2. No detailed maps of individual villages are available.

#### **25. POPULATION**

Table 17 shows the total population and the literate population, by sex, of each village in the Soma Health Area, as of the 1961 census. The average population per village is 969 persons.

There are 4,941 families, with an average size of 6.1 persons. No other details of such items as age composition, distribution by religion and caste, etc. are known. They cannot be obtained from the official census since the latter does not tabulate such data for geographic units smaller than the District. Hindus greatly predominate, however, and probably about 50 per cent of the population belongs to a single caste. Harijans are estimated to comprise about 10 per cent of the people.

Formal social segregation does not exist. Nevertheless, the people retain a sharp awareness of communal differentiation; families of Harijans and Muslims live in separate areas in the villages, and use separate wells. Children mix freely in school, however.

## 26. COMMUNITY ORGANIZATION AND SOCIAL AMENITIES

That portion of Ooham CDB served by Soma PHC follows the political and official pattern as described for the entire District in Part A. The 2 most important outside influences on the lives of the people are the Community Development Organization and the Panchayati system. The Block Officer is young, vigorous and well-liked. He has close contact with the villagers, both directly and through the Village Level Workers, with whom he meets every fortnight. The Gram Panchayats are active and they are intimately concerned with health matters since in this area they have been charged with the responsibility for disease notification and birth and death registration (see Chapters 14 and 15, Part A). Voluntary Health Councils have not been formed. Instead, 2 or 3 members of the Gram Panchayat in each village have been appointed as an informal health committee, and it is they who are responsible for all contacts with the health authorities of the PHC. This includes fulfilling the legal requirements for notification and registration, bringing health problems to the attention of the authorities, and assisting the latter in the implementation of their programmes.

Table 17  
Population of villages under responsibility of Soma PHC, by sex and literacy, 1961.

Village	Total population	Total by sex		Number literate		
		Male	Female	Male	Female	Total
1	843	425	418	194	65	259
2	261	139	122	24	6	30
3	1,402	752	650	352	60	412
4	206	111	95	13	4	17
5	929	485	444	139	19	158
6	669	363	306	157	40	197
7	578	326	252	186	15	201
8	555	296	259	97	12	109
9	202	104	98	16	3	19
10	284	163	121	20	9	29
11	2,259	1,258	1,001	473	101	574
12	210	110	100	22	8	30
13	429	217	212	57	2	59
14	819	431	388	153	49	202
15	314	212	102	14	7	21
16	2,853	1,532	1,321	741	229	970
17	742	396	346	152	55	207
18	2,015	1,054	961	480	113	593
19	349	198	151	172	15	187
20	242	129	113	28	3	31
21	2,957	1,558	1,399	848	223	1,071
22	969	501	468	140	22	162
23	321	179	142	41	7	48
24	253	141	112	21	5	26
25	3,102	1,680	1,422	869	205	1,074
26	1,723	896	827	453	47	500
27	367	178	189	91	17	108
28	246	134	112	23	9	32
29	294	173	121	19	8	27
30	2,515	1,339	1,176	571	197	768
31	1,140	604	536	239	22	261
<b>Total</b>	<b>30,048</b>	<b>16,084</b>	<b>13,964</b>	<b>6,805</b>	<b>1,577</b>	<b>8,382</b>

**Local Organisations.**—There are 42 agricultural cooperatives functioning, with a total membership of 2,478. Community Centres are located in 9 of the larger villages and there are Youth Clubs in 4. There is a Drama Club in Village No. 16. Soma Health Area has 13 temples and 3 mosques. The distribution of some of these organizations among the villages is indicated in Table 18.

Table 18  
Some social and physical amenities in villages served by Soma PHC.

Village No.	Social organisations				Physical facilities		
	Community Centre	Youth Club	Library	Temple/ mosque	Electrified	No. radios	
						Public	Private
1						1	4
2						0	0
3						1	0
4						0	0
5	X					1	3
6						1	0
7						1	1
8						1	1
9						0	0
10						0	0
11	X	X		X(2)*		1	20
12						0	0
13						1	0
14	X				X	1	0
15						0	0
16	X	X	X	X(5)	X	1	30
17						1	0
18	X			X(1)	X	1	16
19						0	0
20						0	0
21	X			X(3)	X	1	10
22						1	5
23						0	0
24						0	0
25	X	X	X	X(1)	X	1	50
26	X			X(2)	X	1	50
27						0	0
28						0	0
29						0	0
30	X	X		X(2)	X	1	10
31					X	0	5
Total	9	4	2	16	8	17	205

\* Number in ( ) is total number of temples and mosques.

**Other Recreational Facilities.**—There are 2 small libraries, in Villages No. 16 and 25. There are no cinemas in the area.

**Fairs and Festivals.**—There is only one local fair celebrated by the villagers in Soma Health Area, and it does not attract outsiders. It is held once each year in Village No. 7, in August on the second day of the moon, and attracts about 1,000 people in addition to the population of that village. The custom is to offer Puja at a small tank. A gang of sweepers is specially deputed to maintain general cleanliness at that time, and the 2 village wells are treated with bleaching powder.

**Electricity, Telephones, Radios.**—Eight of the 31 villages are electrified. The PHC receives current from Village No. 16. There are no telephones, public or private in the entire area. Public radios have been distributed to 17 villages. They are located in the Community Centre if there is one, or at the village chaupal. In addition, there are approximately 205 privately owned radio receivers, very unevenly distributed in the area (Table 18).

## 27. ENVIRONMENTAL SANITATION

Detailed tabulations, by village, of the sanitary facilities in Soma Health Area were supplied independently by the Sanitary Inspector of the PHC and by the Progress Assistant of the Block Development Office. These 2 lists differed considerably in several important features ; the SI listed 102 wells and the BDO listed 286, the SI recorded 279 handpumps and the BDO 435, etc. An independent survey is obviously indicated, but has not been made. The records of the SI have therefore been selected for presentation below, and some of the more important details are given in Table 19.

**Water supply.**—There is at least one shallow surface well as community water supply in each village ; altogether there are 102 for the 31 villages in the area. Of these, only 5 are covered, 3 in village No. 3 and 2 in Village No. 7. All of the remainder are open, but the majority are provided with a pucca parapet and raised platform. There is no community piped water supply, and there are no public taps.

Supplementing the community wells, many individual houses (and schools) have a private supply in the form of tubewells with hand pumps.

Staff from the PHC are responsible for disinfection of wells with bleaching powder according to a regular schedule which varies with season—once each fortnight during winter, once each week during summer, and every alternate day during the cholera season.

A large proportion of the wells gets flooded during almost every rainy season, and every affected well is treated with bleaching powder daily. The sanitary staff at that time puts on an intensive propaganda campaign to induce people to boil water for drinking purposes. The SI reports that he does not believe that more than a tiny few do so.

**Latrines.**—The use of latrines is the exception rather than the rule in the villages. The traditional practice of the majority is to go to the surrounding fields to defecate, and young children are completely promiscuous in their habits both within and around the house compounds. Urination is even less inhibited among all age groups.

Table 19  
Some sanitary facilities in villages served by Soma PHC.

Village No.	Wells	Hand pumps	Latrines	Soakage pits	Bath-rooms
1	4	10	6	4	4
2	1	2	1	2	2
3	4	8	4	3	4
4	3	5	0	0	0
5	3	12	0	0	2
6	4	6	0	2	2
7	2	4	3	2	4
8	1	4	0	0	0
9	3	5	0	0	0
10	1	8	0	0	0
11	7	16	2	2	3
12	1	2	0	0	0
13	2	8	0	2	0
14	4	10	1	0	2
15	1	5	0	0	0
16	5	30	6	3	3
17	4	10	2	2	3
18	5	15	2	3	4
19	1	5	0	2	0
20	1	6	2	0	2
21	9	8	2	8	3
22	2	10	0	2	1
23	1	5	3	7	4
24	1	2	0	2	2
25	7	20	2	14	6
26	7	20	3	12	6
27	1	4	0	0	0
28	1	1	0	2	0
29	4	2	0	2	2
30	8	24	4	12	6
31	4	12	0	0	0
Total	102	279	43	88	65

For demonstration purposes, the PHC had constructed public borehole latrines, some with a water seal (in 8 or 10 villages), but these are not well kept, and have had no noticeable impact on the habits of the people. Some families, usually for the convenience of very old or handicapped persons, have constructed private latrines. As shown in Table 19, there are 43 latrines in the whole of Soma Health Area, very unevenly distributed. There are no "flush" toilets.

**Village Sweeping and Drainage.**—A corps of sweepers is employed by Government, as part of the staff of the PHC, to maintain cleanliness in the villages. Those with a population of 2,000 or more are attended to daily by part-time sweepers under the supervision of the Gram Panchayat. Villages with populations less than 2,000 are visited once each week by a group of full-time sweepers under the supervision of a Sanitary Guide.

Most of the villages have lanes paved with brick, with open shallow, brick drains down both sides. These are constructed by the Public Works Department without reference to the health authorities. The latter may make recommendations or complaints, but have no direct authority. Maintenance, however, is part of the duty of the village sweepers. The drains in most of the villages are unsatisfactory ; there is often insufficient gradient, they are easily and frequently blocked and there is no provision for disposal of drainage water. The drains end in the open, and the waste water either flows into a tank or puddles into a stinking, stagnant, marshy area which supports extensive breeding of *Culex fatigans* mosquitoes.

Household waste water usually runs through outlets in the compound walls into the village lanes and thence into the public drains. The Sanitary Inspector gives instruction and assistance to any householder who wishes to construct a gravel soakage pit for domestic waste. Eighty-eight soakage pits have been dug in the area, as shown in Table 19.

There is no regular system of refuse disposal ; dumping is done by individual families. The sanitary staff has a programme of instruction on the proper disposal of refuse by composting. The village sweeper gangs are responsible for the removal of improper manure piles and the digging of manure pits.

**Disposal of Dead Animals.**—The Gram Panchayats contract with a local chamar (Harijan shoemaker) for removal of animal bodies. The carcass is taken to an open space outside the village for skinning. After removal of the skin, the remains are left to be disposed of by jackals, vultures, and carrion crows. In hot weather this may result in a serious public nuisance.

**Dog and Rat Destruction.**—The Assistant Sanitary Inspector is responsible for destruction of unowned dogs by strychnine poisoning. Such action is initiated by the health authorities as rabies control measure or is done in response to requests from the public, because of the nuisance caused by the innumerable stray dogs. The programme is a very difficult one for the ASI because of the sometimes violent opposition of some persons, on religious grounds, to the killing of animals. Nevertheless, 223 dogs were destroyed during 1964.

The Sanitary Inspector is also responsible for house rat destruction by cyanogas dusting of burrows. During 1964, work was done in Village No. 16 only, and 807 rats were killed.

**Public Food Establishments.**—Pucca restaurants serving full meals are not found in this rural area. There are 27 tea stalls, however, usually attached to grocer's shops, distributed among 3 of the village—13 in Village No. 16, 8 in Village No. 21, and 6 in Village No. 25. These stalls serve only tea and, perhaps, cakes or biscuits and previously cooked fried pakoras or other small items of the sort.

These shops are licensed under a recently introduced Food Act. In practice, however, the health authorities exercise no control over them, and they are usually unclean, fly, roach and rat infested, and devoid of dishwashing or handwashing facilities.

## 28. EDUCATIONAL INSTITUTIONS

There are 34 government schools in Soma Health Area—22 primary, 7 middle, and 5 higher secondary. They are distributed among 19 of the 31 villages, some villages having as many as 4 schools. There are no private schools and no colleges. Some details of each of the schools, as supplied by the Block Development Office, are given in Table 20.

A total of 6,213 children is registered at these schools, 4,252 boys and 1,961 girls. The primary schools have 3,075 registered pupils, the middle have 1,960 and the higher secondary 1,178. Some schools are coeducational, others are for boys only or girls only. The total number of teachers is 266, giving a pupil : teacher ratio of 23 : 1.

Sanitary facilities at the schools are generally inadequate, and those present generally unsatisfactory. The Sanitary Inspector of the PHC keeps no record, of facilities available or work done at the schools, and the information in Table 20 was supplied by the Block Development Office. Among the 34 schools, 29 have a water supply on the premises, usually a handpump although one has an open well. Schools with no water supply of their own provide drinking water from clay jugs or other containers which are filled from the nearest available source. Only 4 schools have latrines on the premises. None of these are water seal type ; both simple bore hole and service types are found. Some of the latrines are not regularly attended and are in filthy condition. At schools with no latrine facility, the children defecate in the fields surrounding the schoolyard. Thirteen of the schools have urinals. Not one of the schools has hand washing facilities.

There is no regular health education programme, no specific course in hygiene, and no text-book dealing with the subject as such. Incidental references to health subjects are made in the text-books on "social studies". At the time of his visits to the schools the Sanitary Inspector attempts to collect together as many children as possible and gives a talk on some aspect of personal hygiene. This is not on a fixed schedule, and no record is kept of the dates, the subjects, or the attendance. During a 3 month period, January-March 1965, the SI gave 54 health talks at schools.

The Lady Health Visitor of the PHC visits each school about once each year in order to give each pupil a physical examination. She is sometimes accompanied by the PHC Medical Officer. No records of these visits, nor of defects found, is kept by the PHC. Children with physical defects, including dental, are verbally instructed to visit the PHC OPD for treatment, and, if necessary, referred to the School Health Clinic at the District Health Office in Ooham City. Response from the pupils and their parents is believed to be good.

## 29. PRIMARY HEALTH CENTRE : PHYSICAL FACILITIES AND STAFF

Soma PHC was constructed and began to function in 1958. It consists of a single building with 8 rooms—2 for indoor patients, 2 for stores, and one each for the Doctor's Clinic, the Maternal and Child Welfare and Family Planning Clinic, a Dispensary/Laboratory, and a Dressing Room. In addition, there is a room constructed as bathroom, toilet, and urinal ; this is not used for its intended purposes, but is used at present as an office for the clerk. There is no waiting room ; the patients wait on the covered verandah. There is also an attached garage. Within the PHC compound official accommodation is available for the use of the Medical Officer. However, the MO of Soma PHC lives in Ooham City and goes to his office daily.

Table 20

Schools in villages in Soma Health Area, including the number of pupils and teachers and some sanitary facilities.

Village (No.)	Type of School	Pupils		Number of teachers	Sanitary facilities		
		Number	Sex		Water	Urinal	Latrine
1	Primary	165	M	5	Pump	0	0
2	Middle	252	M,F	12	Pump	Yes	0
3	Primary	292	M,F	11	Pump	0	0
5	Primary	55	M	2	0	0	0
5	Middle	196	F	11	Pump	Yes	Yes
6	Primary	65	M,F	2	0	0	0
7	Primary	53	M	2	Pump	Yes	0
8	Primary	44	M,F	2	Pump	0	0
9	Primary	49	M,F	2	Well	0	0
11	Primary	155	M	5	Pump	0	0
11	Primary	158	F	5	0	Yes	0
11	Middle	244	M,F	11	Pump	Yes	0
11	Higher	154	M,F	10	Pump	0	0
13	Primary	53	F	2	0	Yes	0
14	Middle	250	F	12	Pump	0	0
16	Primary	315	M	9	Pump	0	0
16	Primary	160	F	4	Pump	Yes	0
16	Higher	255	M,F	20	Pump	Yes	0
17	Primary	233	M	6	Pump	0	0
18	Primary	131	M,F	4	Pump	0	0
18	Middle	349	M,F	12	Pump	Yes	0
21	Primary	100	M	3	Pump	0	0
21	Primary	93	F	4	0	0	0
21	Middle	345	M,F	20	Pump	0	0
21	Higher	450	M	25	Pump	Yes	Yes
22	Primary	98	M,F	4	Pump	0	0
25	Primary	150	M	5	Pump	0	0
25	Primary	130	F	5	Pump	Yes	0
25	Middle	324	M,F	12	Pump	Yes	Yes
25	Higher	146	M,F	9	Pump	0	0
26	Primary	106	F	5	Pump	0	0
30	Primary	239	M	6	Pump	Yes	Yes
30	Higher	173	M,F	15	Pump	Yes	0
31	Primary	231	M,F	4	Pump	0	0

A tubewell has been provided on the PHC premises, but the water is muddy and not fit for drinking. The nearest available source of potable water is a public well about a furlong away. Drinking water is kept at the PHC in clay jugs. There is no regular handwashing facility ; basins are available for the Dispensary and laboratory.

Two borehole latrines, surrounded by a chest-high brick wall, are located in the PHC compound about 100 feet from the main building.

There are 6 beds for indoor patients, 4 for males and 2 for females in theory, but used indiscriminately as needed. There is no provision for surgery except of a very minor nature such as the opening of boils, cleansing of wounds not requiring sutures, etc.

The PHC has a jeep which was provided by UNICEF. This is housed on the premises, and is used as an ambulance whenever necessary, as well as for official travel. Soma PHC is equipped with a refrigerator, also supplied by UNICEF, which is used for holding vaccines and antibiotics.

There is no telephone at the PHC ; the nearest one is located in Village No. 16 less than one half mile away. There is no telegraph office closer than Ooham City.

Soma PHC has 3 subcentres, located in Villages No. 18 (less than a mile away from the PHC), 25, and 31. These are merely headquarters for certain MCH staff, and do not have any special medical/health facilities or equipment.

**Staff :** The entire staff at the Soma PHC are as follows :

	<i>Sanctioned</i>	<i>In position</i>
<b>Incharge</b>		
Medical Officer (MO)	1	1
Lady Doctor	1	*
<b>Administrative</b>		
Lower Division Clerk	1	1
Chowkidar	1	1
Driver	1	1
Cleaner	1	1
Peon	2	1
<b>Curative</b>		
Compounder (Pharmacist)	2	2
Laboratory Assistant	1	1
Nursing orderly	1	1
Attendant	1	1
Ayah	1	1
Sweeper	2	2

\* This full time position has been vacant for 2½ years. A Lady Doctor attends the MCH and FP Clinic twice

Preventive	<i>Sanctioned</i>	<i>In position</i>
Sanitary Inspector (SI)	1	1
Sanitary Assistant	1	1
Lady Health Visitor (LHV)	2	1
Auxiliary Nurse Midwife (ANM)	1	1
Trained Dai	3	3
Sanitary Guide	2	2
Sweeper	9	9
Part-time sweeper	11	11

The duties of the MO, LHV, ANM, and SI are described fully in Appendix 4. The Trained Dais are less qualified personnel who conduct only normal deliveries. The Sanitary Assistant helps the SI in the disinfection of wells and in supervising the work of the 2 sweeper gangs. The Sanitary Guides are merely senior sweepers, each in-charge of a gang of 3 full-time sweepers for village work. Of the 9 full-time sweepers, 6 comprise the gangs, 2 help the Sanitary Assistant in well disinfection, and one is a reserve.

All of the senior subprofessional staff had formal training before coming on duty. The MO, Compounders, SI, LHV, ANM, and Clerk have all been working at Soma PHC for at least 2 years.

### 30. PRIMARY-HEALTH CENTRE : VITAL STATISTICS AND DISEASE NOTIFICATION

**Birth and Death Registration.**—The Soma Health Area follows the new pattern for registration of vital events wherein the responsibility lies with the Gram Panchayat and the channel of reporting is through the Block Development Office to the DHO. The PHC is therefore easily able to get the results from the Block Office.

During 1964, 414 births were recorded from the 31 Soma area villages. This is a birth rate of 13.8 per 1,000 (based on the 1961 population) and is in contrast with a rate of 37.6 for Ooham District as a whole (in 1961). Two hundred twenty-five (54.3%) of these deliveries were by PHC staff, and the remainder by indigenous, untrained dais ; none were by private practitioners. Fifteen cases required hospitalization.

The PHC does not have death records. The MCH clinic has recorded the cause of death for a limited number of infants and young children in 1964. These are shown in Table 21.

Table 21

Cause of death among 50 infants and young children known to the MCH clinic, Soma PHC, 1964.

Cause of death	Infants deaths		Deaths among "toddlers"
	Neonatal	Older	
Diseases of respiratory system	0	2	2
Diseases of digestive system	1	9	1
Marasmus	0	2	0
Other infectious diseases	0	0	1
Other causes	5	13	14
Total	6	26	18

**Disease Notification.**—The PHC does not have a record of diseases notified through official channels, other than those seen at the clinics run by the PHC (see Chapter 31).

### 31. PRIMARY HEALTH CENTRE : MEDICAL RELIEF

Although medical relief (i.e. curative services) is described as only a secondary function of a PHC, supplementary to preventive services, it is the principal focus of professional attention at Soma PHC. The MO seldom finds the time to get into the field, for either preventive work or for medical emergencies and he has a strong bias toward curative medicine. His field tours are stated to be almost limited to supervising the annual "Best Village" competition and to those occasions when the PHC is visited by some higher authority.

**Outdoor Clinic.** The clinic hours are :

Summer : 0700-1100, 1600-1800

Winter : 0800-1200, 1500-1700

The majority of clinic patients come to PHC on their own initiative ; a few are referred by some member of the PHC staff during their visits to the villages. On arrival, male and female patients are seated in separate queues ; there is no separation by age. The Ayah is in charge of this arrangement. Patients are called to see the MO alternately from the male and female lines. The results of the medical examination, the advice given, and the drugs prescribed are written by the MO himself on an "Outdoor Ticket" which is handed to the patient. The MO also enters the name, age, sex, diagnosis, and whether "new" or "old" on a line in the "Outdoor Register". The patient is not given a permanent number, and no reference is made to previous visits. He then is guided to the Dispensary where the compounder supplies medicine, gives inoculation, or applies a dressing according to the instructions on the Outdoor Ticket. If laboratory examination has been ordered, he is guided to the laboratory. The entire process, from entry into the PHC to exist, averages 15-20 minutes.\*

Patients are instructed to bring their Outdoor Tickets when they revisit the clinic for the same illness. By the second visit these may be so tattered as to be almost illegible, but new entries continue to be made, and the Dispenser continues to follow the instructions until they are cancelled. There is a considerable amount of proxy representation for revisits. If an "old" patient loses his "ticket", he is given a new one and usually is entered in the register as a "new" patient since it is not possible to trace the patient in the old records.

In the absence of the MO (and this may be for periods of weeks for earned or sick leave) a Dispenser sees the patients as the doctor's substitute.

The record of clinic visits (and indoor admissions) during 1964, by month is given in Table 22. The average daily census was 122 (new and old patients combined), and the average monthly census was 2,190 new patients and 1,515 old. Therefore, the average number of visits per illness was 1.7.

No analysis has been made of the sex and age distribution of these patients, and analysis by village, by number of visits per person, by religion or caste, by family-wise utilization of clinic services, etc., are not possible because these characteristics are not recorded. Hypothetical analysis, for distance from the PHC and for age and sex, have been made on the basis of records kept at another PHC. These are presented in Appendices 5 and 6, respectively.

\* An analysis in another PHC showed that the MO spends an average of 55 seconds with each patient, of which 35 seconds are consumed in writing the "Outdoor Ticket".

Table 22

Outdoor clinic visits and indoor admissions at Soma PHC during 1964, by month.

	Clinic visits			Indoor admissions		
	New	Old	Total	New	Old	Total
January	1,821	1,325	3,146	10	0	10
February	1,765	1,329	3,094	5	1	6
March	2,452	1,876	4,328	11	1	12
April	2,005	1,444	3,449	7	0	7
May	2,005	1,483	3,488	3	0	3
June	2,343	1,625	3,968	10	1	11
July	2,677	1,860	4,537	6	3	9
August	2,574	1,451	4,025	6	0	6
September	2,749	1,483	4,232	3	0	3
October	2,379	1,542	3,921	0	0	0
November	1,794	1,389	3,183	0	0	0
December	1,722	1,378	3,100	0	0	0
Total	26,286	18,185	44,471	61	6	67

A monthly report is submitted by the PHC giving the diagnoses made at the outdoor clinic. This shows the notifiable diseases in detail, but no breakdown of "others". A summary, by month from April 1964 through March 1965, is presented in Table 23. None of these diagnoses was supported by specific laboratory tests. The absence of cases of diphtheria, and the presence of cases of typhus, is very unusual in this area.

In addition to non-specific medicines, Soma PHC keeps in stock sulfadiazine, sulfaguanidine, "sulfatriad", penicillin, streptomycin, streptopenicillin, achromycin, terramycin, chloromycetin, INH, and hydrocortisone.

**Clinical Laboratory.**—The laboratory at Soma PHC is run by a technician under the guidance of the MO. It has been provided with a microscope by UNICEF. The following types of tests may be performed :

- (a) Blood examination—RBC count, WBC total count and differential, haemoglobin.
- (b) Urine examination—for sugar and albumin.
- (c) Stool examination—for ova and parasites.
- (d) Sputum examination—for acid-fast bacilli.

Blood smears are made from fever cases, but are sent to Ooham City for examination for malaria parasites.

Table 23

Summary of diseases diagnosed at Outdoor clinic, Soma PHC, April 1964 through March 1965.

Disease	Month											
	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Cholera	—	—	—	—	—	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—	—	—
Plague	—	—	—	—	—	—	—	—	—	—	—	—
Poliomyelitis	—	—	—	—	—	—	—	—	—	—	—	—
Virusenceph.	—	—	—	—	—	—	—	—	—	—	—	—
Infectious hepatitis	0	0	0	0	0	0	0	0	2	0	0	0
Tuberculosis	20	20	25	24	30	10	20	22	2	5	8	0
Influenza	—	—	—	—	—	—	—	—	—	—	—	—
Dysentery	350	350	300	250	375	250	300	25	34	15	6	21
Diarrhoea	200	200	325	300	400	350	314	34	37	46	60	59
Whooping Cough	30	35	32	18	33	14	23	23	0	4	6	4
Mumps	12	12	9	6	3	2	0	0	0	6	0	3
Measles	0	0	0	0	0	0	0	0	0	0	0	1
Enteric f.	0	0	0	3	10	8	8	0	1	1	1	1
Cerebrospinal f.	—	—	—	—	—	—	—	—	—	—	—	—
Puerperal fever	6	4	4	2	4	0	0	0	0	0	0	0
Diphtheria	—	—	—	—	—	—	—	—	—	—	—	—
Chickenpox	—	—	—	—	—	—	—	—	—	—	—	—
Typhus	8	10	8	10	6	4	4	10	0	0	0	0
Relapsing fever	—	—	—	—	—	—	—	—	—	—	—	—
Scarlet f.	—	—	—	—	—	—	—	—	—	—	—	—
Erysipelas	—	—	—	—	—	—	—	—	—	—	—	—
Leprosy	—	—	—	—	—	—	—	—	—	—	—	—

A summary of the work of this laboratory during 1963 and 1964 is presented in Table 24.

There is no record available of the results of these tests. It is not clear how, or whether, the results of laboratory tests are related to the patients and how, or whether, they affect treatment.

**Indoor (Bed) patients.**—The beds at Soma PHC are used only for emergencies and for temporary holding of patients until transfer to the Civil Hospital. They are not used for obstetric delivery except under unusual circumstances ; during the last 5 years, only 2 deliveries were performed at the PHC.

Table 22 shows the number of patients admitted each month during 1964. Beds are often unoccupied. Some of the causes for admission during 1964 were ; ascites, anaemia, infantile diarrhoea, marasmus, strangulated hernia, typhoid fever, snake bite, peritonillar abscess, polyneuritis, gluteal abscess, poisoning, traumatic injury, appendicitis, and renal colic.

Table 24

Summary of examinations made by Soma PHC laboratory during 1963 and 1964.

Month	Urine		Blood		Stool		Sputum		Malaria*	
	1963	1964	1963	1964	1963	1964	1963	1964	1963	1964
January	23	23	26	23	2	0	0	0	44	107
February	50	13	43	20	1	1	0	0	54	196
March	59	19	28	15	1	0	0	0	30	323
April	125	35	17	23	7	3	0	0	9	207
May	62	15	15	31	4	3	0	0	35	141
June	65	19	22	33	9	6	0	0	31	183
July	61	19	49	27	19	5	0	0	64	144
August	18	9	17	23	10	3	0	0	112	164
September	21	8	26	17	6	3	0	1	162	188
October	44	17	17	16	7	1	0	1	288	93
November	26	15	4	15	1	4	0	4	166	67
December	7	19	0	10	1	2	0	0	16	66
Total	562	211	264	253	68	31	0	6	1011	1879

\* Blood smears for malaria parasites made at Soma PHC but sent to NMEP Unit Office in Ooham City for examination.

The jeep assigned to the PHC is used in emergencies as an ambulance to transport patients from the villages to the PHC or to the Ooham City Civil Hospital as indicated by the nature of the case.

**Special Activities during Floods.**—Each flooded area is visited once each week by the MO and several of his staff, either by wading through water or by boat. The team is aided by the Panchayat President and the VLW, and during periods of great emergency, additional teams may be deputed by the CMO from other areas. These medical relief teams carry necessary equipment, medicines, typhoid and cholera vaccines, and snake anti-venin. Food distribution is the responsibility of the Block authorities.

**Obstetric Care.**—This function is intimately related to preventive MCH activities, and will be described with the latter in Chapter 32.

## 32. PRIMARY HEALTH CENTRE : PREVENTIVE ACTIVITIES

**Sanitation.**—The programmes in sanitation have been described in Chapter 27, and the health education activities of the Sanitary Inspector were referred to in Chapter 28. The staff is inadequate for all of its assigned duties, and public participation is lacking ; the results are therefore poor.

**Immunization.**—The PHC keeps in stock (under refrigeration) only DPT and rabies vaccines; on a typical day, 250 and 350 cc, respectively, were present. No other vaccines are used routinely by the PHC staff.

Typhoid and cholera vaccination programmes are taken up every year during the floods and special indent is made on the District Health Office for the supply of vaccine. As many people as possible are given inoculations with both antigens on a single occasion. During 1964, about 11,000 persons were inoculated according to the SI ; no permanent record is kept. This work is done under the supervision of the SI, using as many as possible of his own staff and supplemented by vaccinators who may be sent by the DHO and the State Directorate.

DPT vaccine is used in the MCH Clinic. During 1964, 110 inoculations were given—67 first doses, 29 second doses, and 14 third doses. Anti-tetanus serum is known to the villagers and is in demand following severe wounds. During 1964, 26 courses of treatment were given prophylactically.

Rabies vaccine is used, according to the prescribed 14 days schedule, following animal bites. About 10 courses of immunization are given each month. No rabies hyperimmune serum is available.\*

Smallpox vaccination is not carried out by the PHC staff ; several vaccinators from the District Health Office are assigned to Sectors that cover the Soma Health Area. Although staff members of the PHC are unacquainted with the records maintained by the vaccinators, and do not know the details or the quantity of work that has been done, they have informal contact with these vaccinators. The MCH Clinic, the SI, and other staff bring to their attention unvaccinated children when they are detected at clinic or field visits. MCH clinic records show that at least 195 primary vaccinations and 254 revaccinations were given during 1964 to children within the area.

**Maternal and Child Health Activities.**—This includes services provided at the MCH clinic of Soma PHC, and domiciliary services rendered through the subcentres.

At the PHC, the part-time lady doctor, assisted by an LHV, holds MCH Clinic twice weekly—on Mondays for infants, toddlers, and postnatal women, and on Fridays for antenatal women. The services are entirely preventive, and consist of physical examinations, individualised advice on diet and nutrition, child care, personal hygiene, etc., and a limited immunization programme (see above).

During 1964, there were 438 antenatal beneficiaries registered at the clinic (324 new during the year), 1,022 infants (446 new), and 1,279 toddlers (429 new). There was a total of 2,313 patient visits to the clinic during the year.

Pregnant women are referred to the MCH clinic by the dais of the subcentres, who locate them during their visits to the villages. It is the responsibility of the dai to urge the women to visit the clinic after registration. Subsequent visits to the clinic are made if these patients desire them or if the dai thinks it necessary. In actual practice, pregnant women average 2 antenatal visits each.

In accordance with the general District programme, 110 deserving persons are beneficiaries of UNICEF-supplied powdered milk each week. Of these, approximately 40 are pregnant women,

\* The authors have been informed that rabies hyperimmune serum is prepared in India and is available on request. However, the DHO of Ooham, and many other DHOs in the country, did not know this.

40 are infants, and 30 are older children. The ration is one and one-half ounces of milk powder (reconstituted to about 10 ounces of milk) per day. It is distributed in powdered form, one week's supply at a time.

Work at the subcentres is conducted under the supervision of the LHV. The subcentres (B and C, and Map 2) are the responsibility of one dai each, and the third (A) is run by a dai and the ANM. These 3 subcentres cover all of the villages in Soma Health Area. Village-wise registers are maintained by the dais, and they are expected to know, personally, every pregnant woman as a result of their frequent visits to the villages assigned to them individually.

The subcentres function as the field component of the MCH programme. Through them contact is made with pregnant women, a channel is established to the regular clinic at the PHC by periodic home visits, professional advice is demonstrated in the home, the babies are delivered in their homes, and postpartum and neonatal services are continued. The routine prenatal and postpartum visits of the dai to each pregnant woman are according to the following schedule :

During first trimester	—1 visit
During second trimester	—1 visit
During third trimester	—2 visits
Postnatal (monthly)	—3 visits

In the absence of a comprehensive evaluation, it is difficult to assess the effectiveness of this programme. It can only be reported that dais from the subcentres delivered 225 of the 414 births recorded in the Soma Health Area and that no still births or neonatal deaths were reported. Abnormal pregnancies, where complicated delivery is anticipated, are referred to the Civil Hospital; the Lady Doctor was called into the field to attend to complications 4 times during 1964 , and the LHV 12 times.

The subcentre staff do not play a direct role in other preventive programmes, such as smallpox vaccination or disease notification, nor do they register births and deaths.

The training of indigenous dais is also a function of the MCH programme. The lady doctor, with the assistance of the LHV, ANM, and the Trained Dais, had conducted a 6-month course. Each trainee assisted in 6 deliveries and then independently conducted 6 deliveries. After the training, during which they were taught the elements of asepsis, they were each given a midwifery kit and allowed independent practice although they were expected to refer their patients to the official PHC staff for antenatal and postnatal care. To date 6 indigenous dais have received training.

**Family Planning Programme.**—Soma PHC does not have an attached Family Planning Clinic, and conducts these activities through the staff of the MCH clinic and subcentres. The FP programme consists largely of the "motivation" of pregnant women to family limitation and the free distribution of contraceptives at the PHC clinic (held on Mondays, in connection with the antenatal clinic) and through village depot holders.

The District Family Planning Bureau has conducted vasectomy capms at Soma PHC.

**School health.**—No special programme exists. The health educational and medical care activities in schools have been detailed in Chapter 28.

**Health Education.**—No special programme exists—all PHC and field staff are expected to participate in educational activities on every appropriate occasion. The LHV and the SI have special responsibilities.

Food Sanitation.—The MO and SI have delegated authority from the DHO to seize and destroy or send for testing foods suspected of adulteration or of being unfit for human consumption. During 1964, food items were destroyed from shops in 3 villages.

### 33. NON-GOVERNMENT MEDICAL FACILITIES

Medical facilities, other than those provided through the PHC are very limited in Soma Health Area. There are only 7 licensed medical practitioners—4 in Village No. 30 (including the one Ayurvedic and one Unani), and one each in Villages No. 16, 21, and 25 (the last being Unani).

In addition there is a small dispensary in Village No. 25 run by a non-medical Christian mission, and many untrained and unlicensed indigenous Vaid and Hakims practice their crafts in the villages.

## APPENDICES

TM-110

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COMMUNITY HEALTH CELL  
47/1, (First Floor) St. Marks Road,  
Bangalore - 560 001.



## Appendix 1

Percentage distribution of population in Nyaya Pradesh in 1961 and estimated age—and sex-specific population of Ooham District, in 1961.

Age	Percentage distribution			Estimated number of persons in Ooham District		
	Male	Female	Total	Male	Female	Total
0	1.91	1.85	3.76	28,500	27,583	56,083
1	1.84	1.67	3.51	27,421	24,847	52,268
2	1.78	1.58	3.36	26,490	23,519	50,009
3	1.72	1.52	3.24	25,653	22,668	48,321
4	1.67	1.48	3.15	24,876	21,978	46,854
0—4	8.92	8.10	17.02	132,940	120,595	253,535
5	1.62	1.43	3.05	24,135	21,347	45,482
6	1.58	1.39	2.97	23,423	20,746	44,169
7	1.53	1.35	2.88	22,727	20,152	42,879
8	1.48	1.31	2.79	22,030	19,557	41,587
9	1.43	1.28	2.71	21,354	18,971	40,325
5—9	7.64	6.76	14.40	113,669	100,773	214,442
10—14	6.48	5.78	12.26	96,599	86,057	182,656
15—19	5.40	4.77	10.17	80,401	71,129	151,530
20—29	8.26	7.29	15.55	123,081	108,629	231,710
30—39	6.00	5.31	11.31	89,358	79,139	168,497
40—49	4.53	3.68	8.21	67,512	54,792	122,304
50—59	3.29	2.38	5.67	48,937	35,506	84,443
60—69	2.05	1.36	3.41	30,546	20,328	50,874
70	1.07	0.92	1.99	15,948	13,740	29,688
Total	53.64	46.35	99.9	798,991	690,688	1,489,679

## Appendix 2

No epidemiologic analyses have been made of the Civil Hospital and Dispensary experience in Ooham District. However, using original case records, several analysis of typhoid fever, diphtheria, and tetanus were made at a much larger hospital elsewhere in India. At the latter the social conditions of the population served and the nature of medical services available are very similar to the situation in Ooham, and the results may be taken as representing 2 years of hypothetical experience in Ooham District. The following is modified from Ayyar, R.D., Ramakrishnan, S.P., and Singh, B., "Antiseptic", May 1963.

During 1963-64, we may hypothesize that 20,455 patients were admitted as in-patients to the Civil Hospitals and Dispensaries in Ooham District. The monthwise admissions of cases diagnosed clinically (infrequently confirmed bacteriologically) as typhoid fever, diphtheria, and tetanus would be as shown in Table 1. The distribution of these cases by age and sex, and the case fatality rates, are given in Table 2.

Table 1

Total admissions and cases clinically diagnosed as typhoid fever, diphtheria, and tetanus in Civil Hospitals and Dispensaries in Ooham District during 1963-64, monthwise (hypothetical)

Months	Total Admissions	Number of cases clinically diagnosed as				Percentage of all admissions diagnosed as			
		Typhoid	Diph- theria	Tetanus	All 3	Typhoid	Diph- theria	Tetanus	All 3
Jan.	1,369	14	2	29	45	1.0	0.1	2.1	3.3
Feb.	1,271	45	2	9	56	3.5	0.2	0.7	4.4
March	1,562	26	1	18	45	1.7	0.1	1.2	3.0
April	1,680	47	6	20	73	2.8	0.4	1.2	4.4
May	1,793	87	4	10	101	4.8	0.2	0.6	5.6
June	1,707	95	3	12	110	5.6	0.2	0.7	6.5
July	2,000	73	3	18	94	3.6	0.2	0.8	4.7
Aug.	2,064	47	13	34	94	23	0.6	1.7	4.6
Sept.	2,187	75	17	28	120	3.4	0.8	1.3	5.5
Oct.	1,848	47	12	22	81	2.5	0.6	1.2	4.3
Nov.	1,509	33	8	24	65	2.2	0.5	1.6	4.3
Dec.	1,465	18	6	25	49	1.2	0.4	1.7	3.3
<b>Total</b>	<b>20,455</b>	<b>607</b>	<b>77</b>	<b>249</b>	<b>933</b>	<b>3.0</b>	<b>0.4</b>	<b>1.2</b>	<b>4.6</b>

Table 2

Age and sex distribution, and case fatality rates, of typhoid fever, diphtheria, and tetanus in Civil Hospitals and Dispensaries, Ooham District, 1963-64 (hypothetical).

Age (years)	Typhoid fever						Diphtheria						Tetanus					
	No. of cases			Case fatality rate	No. of cases			Case fatality rate	No. of cases			Case fatality rate	No. of cases			Case fatality rate		
	M	F	Total		M	F	Total		M	F	Total		M	F	Total			
<½	0	0	0	—	0	0	0	—	53	28	81	61.7						
½-4	62	22	84	7.2	23	24	47	10.6	24	13	37	35.1						
5-14	242	116	358	5.0	14	16	30	10.0	36	17	53	47.2						
15-34	96	50	146	5.5	0	0	0	—	41	13	54	40.7						
35+	11	8	19	5.8	0	0	0	—	17	7	24	45.8						
Total	411	196	607	5.4	37	40	77	10.4	171	78	249	48.6						

**Appendix 3A**  
**SMALLPOX ENQUIRY FORM**

**Identification (Block I)**

1. Name of village/town.....	2. Police Station .....
3. Block.....	4. Tehsil.....
5. District .....	6. Population.....

**Notification (Block II)**

1. On which date the report was received	.....
(a) In the Office of the D.M.O.H.	.....
(b) By the nearest Police Station/dispensary or vaccinator	.....
2. Date on which a representative of the Health Department conducted the enquiry	.....
3. Date of first case	.....
4. What is the source of infection ? Local/Imported	.....
5. If imported, state the name of place/District/State	.....

**Incidence (Block III)**

1. Number of Smallpox cases and deaths upto the date of inquiry	Cases.....
2. Are the first two or three cases inter-related and living in one house ? Yes/No.	Deaths.....

(Please give detail of cases and deaths in order of occurrences in Block V on page 57.)

**Prevention (Block IV)**

1. (a) Number of primary and revaccination	(a) Primary.....
PERFORMED AT THE TIME OF ENQUIRY	
(b) Other preventive measures adopted	.....
(c) Date of last vaccination (Prior to the date of present enquiry)	.....
(d) Total number of primary and revaccination done since January (of current year)	.....
2. If there was delay in reporting the disease, what action has been taken against defaulters ?	.....
3. If the disease is being imported has the Distt. Medical Officer of Health/Municipal Medical Officer of Health concerned been informed ?	.....

S.N.	Name of the case	Detail of cases and deaths from smallpox					(Block V) Whether he/she had successful primary vaccination. Yes/No.	If dead, the date of death.	Remarks
		Father's name	Age	Sex M/F	Date of attack.	8			
1	2	3	4	5	6	7	8	9	
1	2	3	4	5	6	7	8	9	10

## Office of the District Medical Officer of Health, Ooaham District

Forwarded in original to the Director of Health Services, for information.

## Appendix 3B

CHOLERA INQUIRY AT \_\_\_\_\_

TOWN  
VILLAGE

..... Thana ..... Tahsil ..... District

1. Upon what date did the first case or cases occur ?
  - (a) Upon what date was report received at the nearest dispensary or police station ?
  - (b) Upon what date was the first report received in your office ?
  - (c) Upon what date was a local inquiry made and action taken by—
    - a. the medical officer of the nearest dispensary ?
    - b. a representative of the Public Health Department ?
2. State caste, age and sex of the first person or persons attacked.
3. Had the person first taken ill been away from home recently ? If so, where ?
4. Had any inhabitants or strangers lately returned to the village from localities where cholera is or was prevailing ? If so, what interval elapsed between their return and the occurrence of the first case ?
5. Before the present outbreak, had any suspicious cases of diarrhoea occurred, either in the locality itself or in its vicinity ?
6. When was cholera last prevalent in the locality ? (If possible the date of the last case in the previous visitations should be given.)
7. Were there any special circumstances noted connected with the appearance of the first case, viz. food brought from other places, and eaten by the patient, water from infected areas, direct contact with persons ill with the disease, and c. ?
8. Have the clothes of any persons, dead from or suffering with cholera, been brought into the village ? If so, where were these clothes washed ?
9. What is the source of the water-supply ?
10. Do you consider the water-supply was infected ? If so, why ?
11. Were flies unusually prevalent at time of the outbreak ?

## Appendix 3B (Concl'd.)

12. In what manner does the disease appear to have spread by water, by food or by flies ?

13. Had the first few cases any connection with each other, or did the disease appear at several points simultaneously ?

14. What precautions were adopted on the appearance of the disease by the people ?

15. What measures were taken (a) by the medical Officer of Health of the nearest dispensary and (b) by the Public Health Department ?

16. What is the condition of the village in regard to sanitation ?

17. State whether there is any reason to suppose that the disease was introduced from other place, giving the facts, in a concise and clear manner, upon which your opinion is founded.

18. If there is no reason to suppose that disease was introduced, state clearly any known facts connected with the apparent sporadic origin of the disease.

19. State any other facts which were ascertained during the inquiry not covered by the preceding questions.

20. What were the meteorological conditions prevailing before and during the outbreak ? Was the weather hot and dry or did the epidemic begin shortly after or during, rainy weather ?

21. State the number of cholera cases and deaths up to the date of enquiry and the date of last case.

22. State whether the disease is spreading or is under control.

Name and rank of official conducting enquiry\*

Place.....

Date.....

\* This inquiry report should invariably be prepared and signed by a Medical Officer, if possible, or by a Sanitary Inspector if no Medical Officer is available.

### Appendix 4

#### DUTIES OF DIFFERENT CATEGORIES OF PRIMARY HEALTH CENTRE STAFF

##### 1. Medical Officer

- (a) The Medical Officer is responsible both for curative and preventive health work.
- (b) He will carry out health survey of the villages with the help of Sanitary Inspector.
- (c) He will prepare advance programme of visit to villages for all personnel working under him.
- (d) He will tour the area to organize, direct and control different health activities.
- (e) He will visit a certain number of villages to render medical aid.
- (f) He will arrange for collection and maintenance of vital statistics and other records.
- (g) He will prepare indents for drugs, dressings etc.
- (h) He will prepare and submit periodic returns as instructed by higher authorities.
- (i) In case of epidemic he will immediately contact the DHO and help in control measures.
- (j) He will arrange for health education work in his area.
- (k) He will be responsible for school health programme in his area.
- (l) He will be responsible for the family planning work in his area.

##### 2. Lady Health Visitor

She will work under general supervision of the Lady Medical Officer. Her duties are as follows.

- (a) She will be responsible for the development of MCH services in the area.
- (b) She will conduct antenatal clinics and well baby and toddler clinics at the Health Centre. She will visit subcentres on fixed days. During the visit she will conduct antenatal and well baby clinics there.
- (c) She will arrange for group talks for expectant mothers. During her talks she will lay stress on personal hygiene, nutrition and environmental sanitation.
- (d) She will carry out home visits. During the visit in addition to advice about MCH she will demonstrate simple procedures to relieve conditions such as lousiness, scabies, sore eyes, etc.
- (e) She will advice on family planning.
- (f) She will supervise the work of midwives and dais.
- (g) She will attend to urgent calls from midwives and dais.
- (h) She will help the midwife and dai in improving their technical skills.
- (i) She will maintain the supply of equipments to midwives and dais and the centres and keep records.
- (j) She will be responsible for preparation of reports.
- (k) She will help in training of dais.

- (l) She will help in organising school health work, and help the Medical Officer in medical examination and follow-up.
- (m) She will help in the immunization programme.
- (n) She will hold discussions with midwives and dais.

### 3. Midwife

She will work under the overall supervision of the Lady Doctor and immediate supervision of the LHV and will be incharge of the subcentre. Her duties are :

- (a) She will contact all expectant mothers in the area and encourage them to come to centre/ subcentre.
- (b) She will help the Lady Health Visitor on days of her visit.
- (c) She will keep records of her work and submit returns.
- (d) She will help in the training of indigenous dais.
- (e) She will supervise the work of dais under her jurisdiction.
- (f) She will take part in health education, family planning, and school health programmes.

### 4. Sanitary Inspector

He will work under the general supervision of the Medical Officer incharge PHC. His duties are :

- (a) He will assist the MO in carrying out health surveys of the villages in the block.
- (b) On the basis of this assessment, the MO will plan out a programme and the Sanitary Inspector will be responsible for execution.
- (c) He will collect and consolidate vital statistics and submit returns to MO.
- (d) He will look after all the environmental sanitation programme in the area.
- (e) He will help in the supervision and construction of dug wells, latrines and urinals, smokeless chullas, soakage pits, pavement of streets etc.
- (f) He will look after the environmental sanitation of the schools and arrange for health talks in the schools.
- (g) He will carry out all measures for the control of Communicable Diseases under instruction from MO, i.e. immunization, disinfection etc.
- (h) He will undertake control measures against flies and mosquitoes and will be responsible for spraying of residual insecticides.
- (i) He will carry out health education programme with the assistance of Village Level Workers, social education organizers and school teachers.
- (j) He will be responsible for maintenance of stock.
- (k) He will be responsible for organizing village Health Committees and maintain close liaison with other voluntary organizations of the area.

### 5. Basic Health Worker (not yet in force)

- (a) He will be responsible for collection of fever census and blood slides in his area from :
  - 1. individual houses
  - 2. hospitals/dispensaries
  - 3. local practitioners.
- (b) He will promptly despatch blood slides to the laboratories concerned.
- (c) He will report suspected epidemic diseases detected during the course of his work.
- (d) He will help in the vital statistics collection.
- (e) He will help in the family planning activities in the area.
- (f) He will help in the health education activities.
- (g) He will help in the sanitation of the area.

### 6. Health Assistant/Inspector Family Planning/F.P. Field Worker

He constitutes the first supervisory tier over 2 or 3 subcentres. His duties are as follows :

- (a) He will supervise the Basic Health Worker and Auxiliary Nurse Midwife.
- (b) He will help in the treatment of malaria cases.
- (c) He will assist the MO, PHC in locating cases of malaria and remedial action.
- (d) He will assist in promoting family planning.
- (e) He will collect data regarding eligible couples.
- (f) He will help in arranging distribution of contraceptives through Auxiliary Nurse Mid-wife.
- (g) He will assist in the sterilization campaign in his area.
- (h) He will assist in propagating health education in the area.
- (i) He will help identifying local leaders.

### 7. Medical Officer (Woman) for Family Planning at PHC

- (a) She will develop a broad programme for the community, emphasising extension educational approach.
- (b) She will guide and supervise the staff.
- (c) She will provide clinical consultation services for problems in F.P.
- (d) She will propagate family planning ideal in the community through meetings, lectures and other educational methods.
- (e) She will help in teaching the staff.

**8. Block Extension Educator (F.P.)**

- (a) He shall assume responsibility for and give guidance to the Family Planning Extension activities by :
  - 1. Working with Panchayats and Community Development personnel.
  - 2. Working with Health Department programme and staff.
  - 3. Establishing useful working relation with various categories of health workers.
  - 4. Working with local volunteers.
- (b) He will participate in service education, supervision and guidance to the workers provided under Block Family Planning Scheme.
- (c) He will be directly responsible to Medical Officer (woman).

**9. Auxiliary Nurse Midwife**

- (a) She will contact antenatal mothers and provide them with advice regarding diet and hygiene, sanitation, immunization.
- (b) She will refer expectant mothers to the clinics.
- (c) She will conduct deliveries and give postnatal care.
- (d) She will help in the family planning work and provide advice, information and contraceptive supplies in course of her work.
- (e) She will educate mothers to go to respective depot holders for contraceptives.
- (f) She will ensure that all births and deaths in her area have been recorded.

## Appendix 5

No analysis of the relationship between the distance villagers live from Soma PHC and the frequency with which they make use of its facilities is possible because the residence of the patient is not recorded. However, the percentage distribution of outdoor patients, according to distance from the centre, was calculated at a nearby PHC. Based on the distribution at the latter, and applying these percentages to the clinic experience at Soma PHC, the following hypothetical table was constructed.

Relationship between distance from PHC and population served at outdoor clinics of Soma PHC, 1964 (hypothetical).

Distance from PHC (miles)	Village population	Patient visits		Average visits per villager per year
		Number	Percentage distribution	
Under 1	6,388	27,513	61.8	4.3
1-2	5,511	8,195	18.4	1.4
2-3	7,110	4,231	9.5	0.6
3-4	6,763	2,894	6.5	0.4
4 or more	4,276	1,702	3.8	0.4
<b>Total</b>	<b>30,048</b>	<b>44,535</b>	<b>100.0</b>	<b>1.5</b>

### Appendix 6

The characteristics of the patients visiting the outdoor clinic at Soma PHC cannot be known because these data have not been tabulated. Since this is done at a nearby PHC, the percentages calculated at the latter can be applied to the crude total of "new" patients attending the clinic at Soma PHC during 1964 with the following hypothetical results.

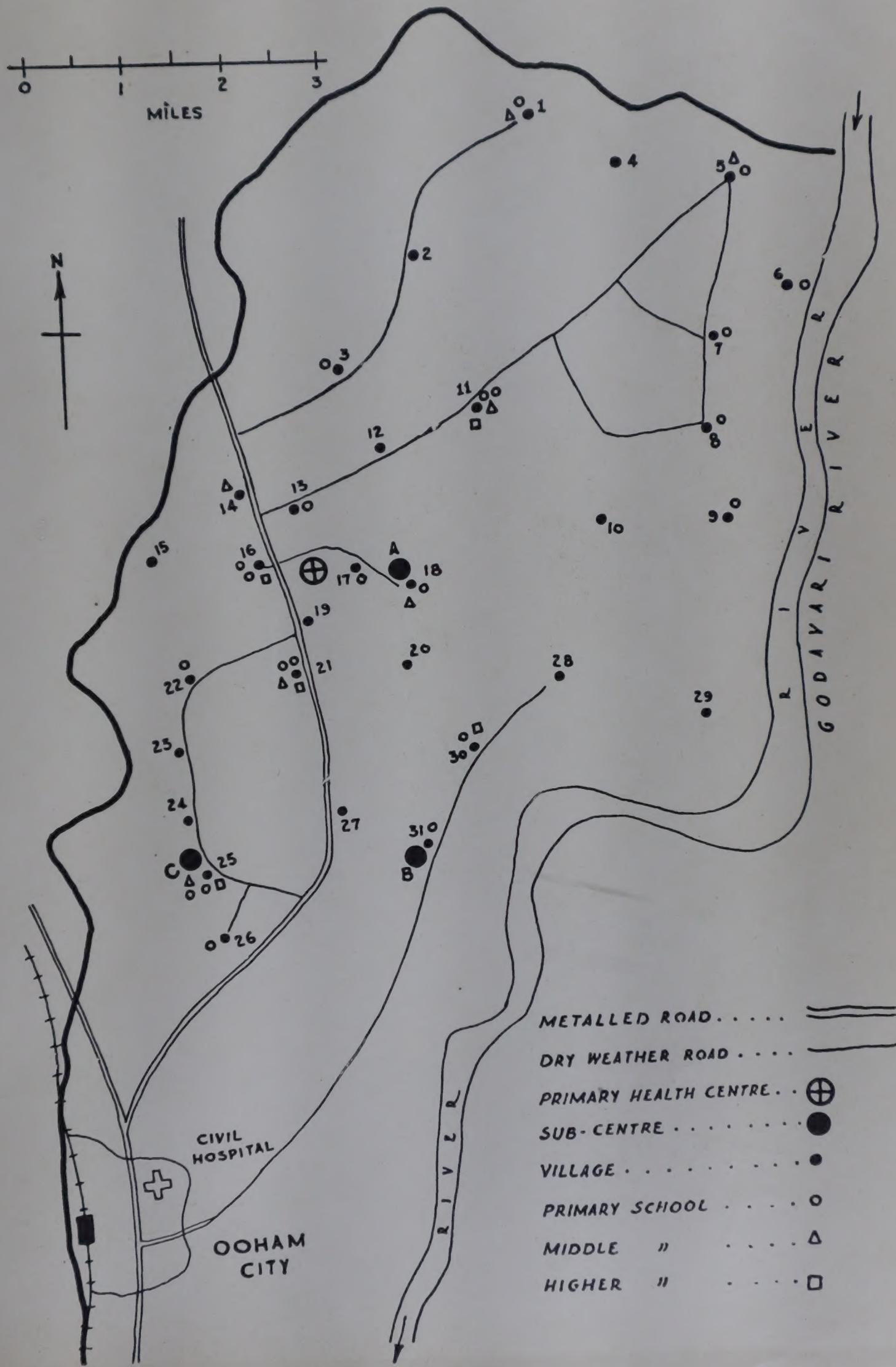
Distribution of "new" patients visits at Soma PHC, 1964, by age and sex (hypothetical).

Age (years)	Patient visits			Percentage Distribution		
	Male	Female	Total	Male	Female	Total
Under 1	1,393	1,367	2,760	5.3	5.2	10.5
1—4	1,787	1,736	3,523	6.8	6.6	13.4
5—14	2,024	1,709	3,733	7.7	6.5	14.2
15—24	4,363	4,285	8,648	16.6	16.3	32.9
35—54	2,865	2,891	5,756	10.9	11.0	21.9
55+	946	920	1,866	3.6	3.5	7.1
<b>Total</b>	<b>13,378</b>	<b>12,908</b>	<b>26,286</b>	<b>50.9</b>	<b>49.1</b>	<b>100.0</b>



MAP. 2

## — AREA SERVED BY SOMA P.H.C. —







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